

PERSONNEL AND LABOR TURNOVER



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Personnel and Labor Turnover

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SELECTION FROM APPLICANTS
RELATIONS OF EMPLOYMENT DEPARTMENT TO
THOSE EMPLOYED
HOLDING MEN IN THE SHOP
LABOR TURNOVER
EDUCATION

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INDUSTRIAL AND LABOR RELATIONS

PERSONNEL RELATIONS

(PART 1)

PERSONNEL

GENERAL CONSIDERATIONS

1. The Labor Problem.—The number of employes required for a production of a given value varies greatly in different shops. The more refined the product the larger is the pay roll compared with the invoices of materials. For example, many more persons will be employed at a higher expenditure of wages in making iron ore into automobiles than in simply smelting it in a blast furnace.

Thus the problem of labor, including every grade of physical and mental laborer, is of varying importance in different shops, depending on the conditions that surround each.

In general, however, it is safe to say that nearly everywhere the flow of labor from shop to shop is too free for the good of either the shops or the employes. The problem of reducing this flow is the problem of the personnel department, no matter under what name it may appear on the particular organization chart.

It is only within a very few years that the labor flow has been recognized as a problem at all. Previous to that, it was a commonly accepted opinion that the flow of labor was inevitable and that it was a misfortune due entirely to the fault of the employes. Moreover, since the cost of training new employes is entirely concealed so far as any cost account-

ing shows, the expense due to this rapid flow of labor was not appreciated.

2. Personnel Work as a Part of Production.—The old saying, "Well bought is half sold," applies quite as well to labor as to materials; in fact, when we consider the nature of labor, it is more pertinent. The greater part of all the materials used in manufacture can be stored away through times of depression and used on a rising market quite as well as at the time of purchase. On the other hand, every day's time which each man does not work has gone past and can never be recovered. To be sure, up to a reasonable amount, time must be allowed for recreation as well as for sleep and meals; but, in general, each man lives and does his work by the lifetime rather than by the day or week. His life is not necessarily prolonged by vacations or by lay-offs or shut-downs; so it is safe to say that everything that decreases the number of days he works each year is not merely a loss to him but a loss to the community as well.

The personnel worker then has a real part in manufacture, just as important as that of the purchasing agent, up to the time the employe goes to work, and just as important as that of the superintendent in charge of machinery and equipment, after the employe is on the job; and at the time the employe leaves the personnel man has a still more important function, that of discovering the reason why the man left and of finding a way to stop that particular leak if possible.

3. Position of Personnel Work Relative to the Management.—The personnel work is an essential part of management, for it has a large effect on the cost of production. In too many cases the management has gone at it half-heartedly by either hiring some man known for his "big-brotherly" attitude, or because he was a psychologist, or sometimes because he was a relative of the manager and had to have a job. These men have been thrown on the job to sink or swim. Most of them sank, unless they were of the political type that did as little as possible and did the greatest possible amount of talking about it. Many failed, not so

much on account of the method by which they were selected, as because they had no real backing from the management.

Since personnel work is a problem of management, it would seem as though it should be under and very close to some member of the firm or corporation who will give very liberally of his time and energy. This does not mean that the head of the department can be a figurehead, but that the policies of the department become and are the policies of the management. For example, if the employment department decides that it is wise to transfer men from department to department until a suitable place is found, or if the safety engineering department decides to post notices showing the relative number of accidents in each department, such procedure should be known to all as the act of the management operating through the departments as executives.

Unless this backing is extended by the management, there is absolute need of a very strong man in charge of employe-relations work. To be successful, he would need to be a stronger man than the general manager, because he cannot throw any of the safeguards and protections around himself as can the latter. He has to be out in the open and ready to defend his position at all times, whether against a foreman or a disgruntled workman or against a superintendent, for he becomes the center around which some very vital matters concentrate. It sometimes seems as though all the weaknesses, frailties, passions, and sensitivenesses of the whole plant center on problems that must be solved, if solved at all, in the personnel department.

4. That it pays to have thorough personnel work done is evident; for it has been demonstrated many times over that such work can hold the labor turnover of almost any kind of a plant well within the 100 per cent. mark, while it is not at all uncommon to find labor turnover running as high as 250 or 300 per cent., and during times of great unrest double these figures have been common. At the same time, and during the height of the unsettled conditions, firms have maintained labor turnovers of 60 or 70 per cent., when other firms next

door to them and operating without a personnel department were having ten times the turnover.

The cost of labor turnover is always problematic, and investigation of the amount involved brings employers face to face with astonishingly large figures. Take, for example, the case of a shop employing 5,000 people and having a labor turnover of 300 per cent. If the average cost of training an employe is only \$50 and the turnover can be cut to 100 per cent. by proper care, it is evident that there is a possible saving of half a million dollars. However, the very magnitude of the possible saving makes hard-headed business managers feel that there must be something wrong about the statement, very much as a banker is suspicious of an investment that promises over 10 per cent. dividends. However, the figures just given as an example are probably well within the true ones for a great many shops. The business of the world has been conducted much more wastefully, so far as labor is concerned, than in respect to materials and methods of production. Shop after shop has figured its efficiency, measured in terms of speed of machines, automatic machinery, etc., in most minute terms, and has watched every avenue of loss except the large one of inefficient labor. This loss in labor cost has not troubled the works manager, because it is not the loss of something that he has had in his possession. If he buys 100 tons of pig iron and only produces 90 tons of castings, he realizes the loss and makes every effort to minimize it; but if he buys \$100 worth of labor and only gets 90 per cent. of the returns that he might if it were not for the expense of training the workmen, he does not realize it, because it is a condition to which he has always been accustomed.

5. Progress of Employment Work.—For the reasons that have been outlined, work for employes, such as would lead to decreased cost of production, has not made very rapid strides. It has suffered the handicap of beginning as so-called welfare work, which was paternal and more or less advertised as philanthropic. Employers vied with each other in telling

how much they were doing *for* their help. They had dances, rest rooms, promoted athletics, had lectures on home cooking and hygiene, offered to invest employes' savings for them, and in many other ways did things which appeared to their employes as being strangely philanthropic, and which made the latter feel that if the company was making sufficient profit to do these things it could better have increased wages. This kind of employe-relations work appeals to a very considerable class of workmen, and especially work women, and cannot be neglected by the student of modern methods; but there is little room for doubt that it did slow down the progress which the movement toward a more efficient personnel might have made. It was based, to all appearances, on a misapprehension on the part of employers as to the intelligence of their employes. Inasmuch as the matter of personal intelligence recurs in other relations with workmen, it is well to give it careful consideration.

6. Intelligence of Workmen.—The average workman in skilled trades is about as unbusinesslike as the average college professor, doctor, or minister. That is, he presumes that all other people with whom he deals will be as honest as he is in his own interpretation of the word honesty. His code of ethics is not that of lawyers and business men in general, so many of whom stick to the old Roman sentiment, *Caveat emptor* (Let the buyer beware). The workman expects, when he is hired by a new employer, that he will have the benefit of whatever has appeared to him to be the customs of the trade which he follows. He is very apt not to inquire into what the customs really are, but to accept what is offered. That is, he may go into a town where the rate for a skilled machinist is 90 cents an hour and he may accept 70 cents for quite a long time without knowing what to believe is the going rate. This is comparable to the professional man who lets his customers or clients take long periods for payment of bills, or who does not insist on a living wage because he feels it unprofessional to spend time in attempting to better his lot from a financial standpoint. However, it is not safe or

right in either case to assume that because the workman or professional man does not demand the returns which he should have, or does not, except when he acts in unison with others, have the courage to stake his job against his future, that he is unintelligent. Nor is it safe to assume that education is definitely connected with intelligence. A man may be entirely unable to present his case in convincing English, he may be timid about presenting it at all, and yet be entirely capable of understanding the purpose back of paternalism. As a matter purely of personal opinion, the writer would say that, out of thousands of employers and employes whom he has met, there is not a great deal of difference as regards intelligence in general. There is a great deal of difference in technical knowledge, self-assertion, and self-control, and it is such things, rather than special intelligence, that appear to determine success in business.

7. Relation of Personnel Work to Foremen and Superintendents.—Even though the management extends its best support to all the things the personnel department does, unless the work of the department has the sympathy and support of the foremen and superintendents it will not meet with a full measure of success. Hospital care, safety engineering, employment work, follow-up, all to a certain limited degree take away from foremen certain prerogatives which they have formerly exercised. No one, no matter how burdened, cares to be relieved of any duties, if such relief tends to decrease his power or his apparent standing over other men. Good employment management selects men suitable to the work, assigns them to certain foremen, and transfers them as the exigencies of the business demand. Good safety engineering takes away from the foreman the right to order a man to use machinery that is dangerous, and stops machinery from being used at all until put in safe condition. Good medical care tells a man when to go home and how long to stay there, with little regard to the pressing needs of the shop.

It is essential to the greatest profit over a long period of

time, that the right man be put in the right place, even though the foreman in charge has personal antipathies against him or men like him. It is necessary to the greatest profit, that the work of a man for months shall not be offset by the loss in money and in production due to an accident caused by the carelessness of a too zealous foreman; and it is necessary for the sake of future production that a man should not be allowed to prolong a slight cold or headache into a long illness, through lack of consideration of his health. It is, however, too much to expect that any one man can be a specialist in production and at the same time a specialist in employment, safety, and medicine, not to mention many other functions of the personnel department.

It will undoubtedly take many more years for a new crop of foremen to grow up who are willing to accept this specialized assistance in the spirit in which it is given. A few of the older foremen understand the conditions clearly, but many do not. In some shops they have had each of these things, so to speak, thrust down their throats, with only the briefest sort of explanation of the objects to be attained. Very often it happens that the directors and general manager, who are apt to be better informed of what their competitors are doing, decide on these innovations and insist on their being tried out while the works manager is yet unconvinced and is only biding his time to discover flaws in the details of the plan, which he will magnify into mountains of discontent. It is, therefore, very necessary for any one contemplating employment in a personnel department to find out in advance what the relations are between the department and the foremen. With the support of the foremen he can accomplish a great deal, but if they are opposed, or worse still, if they damn it with faint praise, he can depend on having an up-hill fight.

8. Relation of Personnel Work to Employees.—In many ways the personnel department is an interpreter of the views and wishes of the employes to the management. Most labor troubles grow out of relatively small misunderstandings. They may be intensified by outside influences, but the seed of

discontent is very often within the plant. It is part of the duty of the personnel department to be so much in the confidence of the employes, and rightfully so, that they will bring all these petty troubles to that department rather than nurse them into big troubles. This condition of confidence is not easy to arrive at, because many of the things that employes will ask for cannot be done and are not conducive to production. Then, the people who are the most apt to bring their troubles out for an airing are not necessarily the ones who most fully represent the real feeling of their fellows. The real feeling can be discovered only by knowing a large variety of the workmen, including those who do not seem to desire to become acquainted. As a general thing, however, the departments like the employment, safety and hospital, which are apt to irritate foremen, are likely to be accepted by the men themselves, especially after they become familiar with the working methods. For example, almost any man can realize the advantage to him of making application for jobs where all the openings in a factory are known, rather than where he can see only one foreman who may know nothing of the needs of his next-door department. He can also realize the comfort of having a good place to wait for attention. He may wonder what need there is of the searching inquiry that is made regarding his past, but he is very much used to this now and does not resent it. He appreciates the value of a safety department every time he sees that the department insists that machines shall not be used when they are not in safe condition, unless he is on piece work, in which case he may resent the interference. He recognizes the value of the medical department every time he sees a man who has been hurt or taken sick come back into the shop well cared for and pleased with the treatment he has had. The employe may have resented the physical examination through which he was put as an applicant; but, if his natural fears have not been excited during the examination and the physician has some words of kindly advice to give him in addition to the report which he makes out, the advantage of working where there are such facilities becomes apparent. It is a matter of experi-

ence, that men are much more impressed with these things than they are with some of the more purely welfare work that is done. They also appreciate housing, when it is done on a scale that seems sensible, also transportation, feeding, cooperative buying, and mutual benefit associations; but they appreciate them more if they have some hand in them themselves. Employees realize that there are things which demand experience along technical lines and for which the company must necessarily take full responsibility, and for the doing of these they have true appreciation.

9. Ideal Relations Between Employers and Employees.—The older ideal among employers was for the employer to be a perfect father to his workmen and to direct them so that by thrift and economy they would some day acquire sufficient money to buy out the business and he could retire on his fortune. This attitude, however, presumes a very great confidence in his own infallibility on the part of the employer, which, however, was not lacking a few years ago. It is only comparatively recently that business men have begun to realize the need of specialists, and to call them in.

The older ideal among workmen was a good steady job paying an always slightly increasing wage, a job that did not leave them so tired at the end of the day that they could not enjoy their evening. It must be admitted that this is not a high ideal, and that only a few workmen had sufficient ambition to make any attempt to go higher.

Present-day ideals, not by any means reached, call for such a relation between employer and employe that both will work for the greatest possible production with the least tie-up of capital, consistent with work of the grade needed, and consistent with the comfort and long life of the employe and the reasonable life of the equipment.

This relation can only be brought about when both workmen and employer have equally attractive incentives to bring it about. Just so long as either believes that the other is making more than his share of the profits this new ideal can-

not be attained. A knowledge and belief that profits are rightfully divided is the foundation on which almost the whole matter rests. The profits which an employer makes may be wholly a matter of conjecture on the part of the employe. He may judge, because the manager continues to use his limousine when he is saying that business is flat, that the latter is untruthful. Judging from his own experience, the employe may not be able to see how any one can be other than broke or flush; he cannot conceive of another man's having a reserve fund with which to equalize his living conditions, adding to the reserve when times are good and eating into it when they are bad. To the mind of the workmen the ostentation with which many successful business men and their families live is a constant reminder of the things which workmen cannot have. They see the better clothes which the women of the wealthy families wear as compared with those of their own wives and daughters, and they see the automobiles and chaffeurs, as against their own cars and their own driving, and, whether right or wrong, the comparison is odious.

10. Limitations of a Personnel Department.

Ideals cannot be reached in a moment. The fact that the management have high ideals and are willing and anxious to put their relations with their employes on a high plane does not necessarily make it possible to put those ideals in operation at once. This is very annoying to the type of general manager who has surrounded himself with people who do his bidding at the slightest hint. He is surprised to discover that in certain directions he may be able to get what appears to be cooperation, but under the surface proves to be a policy of elastic retreat and advance when the pressure is diverted. He can inaugurate his ideal measures, but his foremen, or even the men, may fail to appreciate or make use of them. It is therefore wise not to be led into rapid expansion of employe-relations work, even though the men at the head of the company may be very enthusiastic about it. Soon their attention will be diverted to other things, and then the luckless employment manager may find the reaction

against his work to be too great for him to stand up under alone.

The best policy appears to be to attack the problem, in a going concern, by first doing the things that appear to be demanded by the existing conditions, and then to take up from time to time things that are more directly related to production. For example, it may be found, by keeping track of the men leaving the shop, that the turnover is unnecessarily large; further, that more leave from some departments than from others, or it may be found that men leave for certain reasons rather than for others. The result of this investigation may be transmitted to the foremen, without calling names, and the statement may be made that, in order to treat every one alike, in the future it will be necessary for all hiring to be done through one central point, but that no one will be hired who is not acceptable to the foreman under whom he is to work. From this point on, it is easy to introduce physical examinations of candidates, to start follow-up work both within and without the shop, and to establish whatever system may be decided on for making the selection of workmen. The greatest difficulty begins when an attempt is made to keep in the firm's employ men who have not proved acceptable to certain foremen, either by insisting that they be given another chance or by transferring them to other departments. Foremen for generations have considered it one of their most cherished prerogatives to discharge men at will, arbitrarily, for the good of the shop, or for the venting of their own displeasure. It is a bitter blow to many of them to have this time-honored right questioned. It should only be approached after they have found that the advantage of having an adequate supply of intelligent help brought to them is so great that they cannot afford to antagonize the employment department.

In the same way, the medical department can be built up, having purely advisory powers at first, and reporting physical defects which it finds to the employment department, with advice as to the work from which these defects should exclude the man. When the time comes when it seems best to give

the medical department the right to decide whether a man is in fit physical condition to go on with work which he wants to continue and which the foreman declares it is imperative that he should, there is opportunity for a clash, which can only be avoided by letting such things alone until the time has come when the medical department has made itself so well liked and so useful that the foremen cannot afford to antagonize it. In exactly the same way, the safety engineering department has to confine itself to measures that do not in any way interfere with production until it becomes an established and accepted part of the organization.

11. Beginning Employment Work.—The first and safest starting point for employment work is the supplying of labor to make up for the turnover which is found to exist. This is not nearly so profitable as stopping the leaks; but stopping the leaks involves apparent interference with past methods and is likely to cause trouble, as already explained. There is another advantage in not beginning with the leaks, and that is that the delay will give a good opportunity to study the causes of leaving, and this study can well be made in connection with the work of starting a flow of labor toward the shop, though action toward remedies for the leaving may not be taken for some time.

METHODS OF SECURING A FLOW OF HELP

12. The Flow of Labor.—Whenever business is good there is always a scarcity of help, and it is then that the greatest profit is to be made and the need of keeping the shop supplied is the greatest. Like the flow of water, labor flow can be accelerated either by drawing men in or by getting behind them and pushing them in. In general the best results are obtained from men who apply without being urged, because they feel that if they could only get a job at the shop in question they would be content to stay there the rest of their lives. The men who are pushed in, by scouts or by advertisements of high wages, are very apt to move about the country

and to go very freely from one shop to another, thus increasing the cost of labor turnover rather than improving conditions.

13. Conditions That Attract Men.—Men like to work where the wages are good, and especially where there is a chance to make some extra money by working overtime. Men are just as much bargain hunters as women, and they like to feel that they are getting something for nothing. This is apt to be carried to an extreme, and some men are inclined to take things very easy during the day to make sure of work enough at night to get even one hour's pay for work they have not done during the day. They like a comfortable shop comfortably reached. They like safe working conditions, though that is almost always an afterthought that develops an outward flow of labor after a bad accident. Most of all, the drawing powers are money and comfort. To a smaller extent, there is the social call; that is, some men much prefer to work among friends. If one of a little coterie goes to a certain shop, the rest are likely to follow soon after. This is a little more noticeable among girls than among men, and in a small town is often an important factor.

From this, it will be seen that what are known as working conditions have great influence on the cost of production, much more than is visible through increased speed with which the work is gotten out by any one man. If all the machinery in a shop could be kept in operation at a predetermined efficient speed, notwithstanding the usual rapid turnover of labor, there would be no reason to concern ourselves about it, but if only a quarter to a half production is maintained by a new man while he is learning the work, and it takes him 6 months to get up to speed, and then he leaves inside of a year, the increased cost is very considerable.

The first concern of an employment manager who wishes to secure a reliable flow of labor toward his shop, is to make the conditions within the shop such that men will naturally desire to get jobs there. The employment manager himself is not in a position to make good working conditions. However, he is the man who hears the complaints made by men who

are leaving, and it is his duty to see that a résumé of the reasons for leaving reaches the management, or as high an official as he can reach. Many of the things that are found to cause men to leave do not appeal to the works manager. He very likely may have come up through the shop and may have been so accustomed to even poorer conditions that he cannot see why men should prefer to work for some employer more sensitive to shop atmosphere than he is.

14. Advertising for Help.—Advertising may be direct or indirect. By direct advertising is meant printed newspaper advertisements, circulars, posters, or any means that directly states to whoever may see it, that the company is in need of more help. In general, direct advertising is to be made use of only as a last resort, because of the implications which it carries. It virtually tells not only prospective employes that the shop is hard pressed to secure men, but it tells the same thing to those already working for the company and also to its competitors in the field for labor. This unduly disturbs other people, sets the workmen in the shop wondering if they should not get more pay, gets competitors ready to offer larger wages, and in general should be avoided unless there is a need which no other means will meet.

Blind advertisements, or those in which the name of the advertiser does not appear, the replies to which are to be sent in care of the newspaper in which the advertisement is printed, appear to avoid all these difficulties. The greatest objection to such advertisements is that many men who would like to make a change do not dare to answer them for fear that the advertisement may come from the firm for which they are now working. This difficulty can be avoided by the person who answers an advertisement of this kind, if he encloses the answer in an outer envelope addressed to the newspaper or magazine and requests that the letter be not delivered if the advertiser is the firm which he names. This method is, however, so little understood, that blind advertisements are not so effective as they might be.

Possibly the very best advertising is that done by some

companies who use a certain space in every issue of a paper, and advertise in general that their employment departments solicit applications from workmen in certain specified trades. The fact that this is a constant advertisement takes away the danger of stirring up other people, and yet the advertisement makes certain that almost every one coming into town from outside will sooner or later apply to that employment department. In a way, it is a most welcome thing to a man, who for any reason finds it necessary to move to some city, to see in the papers what at least appears to be a welcome. He may realize perfectly well that all that the employment department may do is to put his name on a waiting list; but that is something much better than a mere notice, "No Help Wanted" outside the door. In fact, such a sign is something that any well-regulated employment department should never exhibit.

15. Scouting.—During times of great industrial activity, it is customary to try to divert the flow of labor from distant points. The theory of scouting is that by some means the employment department will discover territory in which there is unemployment, and by going there and offering transportation to their own town they will be doing a great deal of good in making a better distribution of labor. In practice, however, there is a great danger that scouting will be done where it produces the most immediate results. This is where there are the greatest number of men employed, rather than where there is the least work. Men pretty generally look up their own places to go, if there is more employment in one place than another; and the scout is very apt to find little that he can accomplish when he goes where there is no work, because it is exactly that place that the men who have any energy and life have left.

The only really legitimate scouting is that which is done with a long look into the future and which is based on getting people to come from one undesirable locality to another more prosperous, with better opportunities for advancement, better schools for children, and better and more legitimate opportunities for enjoyment, an appeal made not on the basis of

higher wages, but on better living conditions. The result of such a campaign is a slow but steady dribble of employes. If the town is up to the representations made for it, these people will write home and bring in others. Those that come through such influence are likely to stay. Those brought in by the usual scout method are very likely to use the means furnished them to come to town and to be found working for a competitor as soon as they get sufficiently acquainted with the town to know who he is. The exception to this is in the one-shop town where there is no other place to work. Shops in such towns, however, have their own problems, as it is much harder to get men to go to small places where schools are likely to be mediocre and the facilities for amusement almost sure to be poor.

In cases where men are really thrown out of employment, it is usually possible to pick up some desirable workmen, but in general the competent men have taken care of themselves before it becomes generally known that a lay-off is imminent, and what are left are of doubtful value.

In general, it may be said that scouting should be undertaken only as a last resort in case of emergency, and that no lasting good can be expected from it.

SELECTING FROM APPLICANTS

METHODS AND REQUIREMENTS

16. Methods of Selection.—With a supply of help coming to the employment department, how shall we decide whom to hire and whom to turn away? The most natural thing is to go by our past experience. The great trouble with experience, however, is that as time has gone on it has eliminated certain types of people from consideration. In youth we may have had unpleasant dealings with men of a certain race, and since then we may never have hired any of that nationality. Consequently, we have had practically no experience with them, and have no right to judge them. It

may be the same with red-headed men or men with crooked noses, or dark-complexioned men. The experience of one person who has thus shut out from consideration whole groups of people is unreliable and ought not to be tolerated.

Since every one is greatly influenced by the personal element, it is very hard to keep interviewers from making their selections according to prejudice rather than according to common sense or science. This tendency to select by appearances has been developed into a science by several persons, who have established considerable reputation for their work. Their basis for determining qualities of men has been scientific, in that they have made studies of many thousands of men and have drawn their conclusions from these studies, impersonally, and without any intimate acquaintance with them that would be likely to bias their judgments. These conclusions, however, are based entirely on physiognomy, and leave out all other considerations than whether the candidate is light complexioned or dark, and what the shape and contour of his head and hands are. The argument which they offer in support of their method is, briefly, that "as a man thinketh so is he," and that, whatever his appearance may be, it is the result of his thoughts, and therefore his face is all that it is necessary to consider. Needless to say, it is difficult for a great many persons to reconcile themselves to being judged by a face which they have been led to believe through all their lives was an inheritance only. Moreover, there are a great many employers who are by no means ready to take up with this method of selection, but prefer the experience of some man in the shop in whose judgment they have faith.

17. Psychological Tests.—For many years it has been a custom among psychologists to rate men's intelligence in terms of the normal development of children. That is, a man may be said to have only the intelligence of a 10-year-old child, by which is meant that he has the ability to think as fast and as correctly as a child of that age, this ability being determined by giving him a number of very simple things to do. This practice has been developed into a method of test-

ing men, not only for general intelligence, but for the specific intelligence necessary for success in a certain trade or occupation. This method has been tried out, and gives a great deal of promise of success; but a large amount of common sense and a knowledge of the ins and outs of the trades for which the tests are given is required in order to interpret the results correctly.

18. Trade Tests.—In a certain sense, every job is a trade test. That is, each man employed is being tested for ability in every job he does. The greater part of all hiring, even now, is done by the method of trying the man out on the job. That is, the interviewer in the employment office makes as good a selection as he can and turns those selected over to a foreman, who accepts them subject to their proving themselves to be competent.

In some trades it takes very little time to discover a man's ability. For example, the very way a blacksmith handles his tools and makes up his fire tells whether he has had experience at the trade or not; but it tells this only to men who have also worked long at the business and who know it from their own experience. The question of how good work he can do and how rapidly he can do it, can only be decided by keeping him on the job long enough so that he forgets that he is on trial and assumes his natural pace and his natural industry or lack of it. A barber can be discovered by his work on one head of hair. Every shop has some customers who would apparently not appreciate a good hair cut if they had it, and the new man can be tried out on them without much danger of harming the reputation of the shop.

On the other hand, there are trades where a try-out is very expensive; for example, that of a moving-picture camera man. Many thousands of feet of film are wasted on every pretentious subject, but enough is wasted at the best without trying out inexperienced camera men; so that it is not usual for a man to get a job unless his ability is well known. If he has no reputation, he must take an assistant's job and carry cameras and set up lights where he is told. After a while he

is allowed to turn the crank on some unimportant scene while the camera man takes a few minutes' rest; later on, if he shows that he has grasped the principles of lighting, he may get a chance to substitute, and then, in an emergency, to "shoot" a whole play. Between the extremes just mentioned are many jobs, ability at which can be more or less easily tested.

Many specific trade tests to be given to workmen have been proposed; as, for example, to give a cabinetmaker two pieces of wood and require him to make a mortise and tenon or a

Employment Department	
Name _____	Date _____ 191
Address _____	
Age _____	Born _____
Married _____	Children _____
Employed _____	Temperate _____
Last Employment _____	
Worked here before _____	
What Trade _____	
Remarks _____	

FIG. 1

dovetail joint; or, for a man who claims to be a machinist, to have a lathe handy and give him a piece of stock and tell him to cut a triple thread of some pitch not given on the gear plate, but which is possible with the equipment of gears offered; or, if the man is a draftsman, a general drawing may be given to him and he may be required to make a detail drawing of one rather difficult piece.

Such trade tests have a real and distinct value if taken in conjunction with other evidences of ability, and if they are varied sufficiently often so that men will not be coached to pass them. It is a fact that in any shop where any consider-

able number of men are employed, some one, either out of friendship or for a profit, devises ways to teach candidates just the things that are necessary for passing these examinations, just as in college there are always tutors who coach backward students to pass examinations. For this reason, it is necessary that the tests be sufficiently varied so that the employment department may be assured that it is actually testing the applicants and not merely letting them past.

19. Conducting an Interview.—As men present themselves at the employment office it is easy to pick out those to

Form 120.A 11-16 3000		APPLICATION	
Date		For position as	
Name		Age	
In person	By letter	White	Colored
Address			
Single	Married	No. of Children ?	Nationality
Total experience			
Last Employer		Date	
Length of service		Reason for leaving	
Last wages received		per	
Member Union ?	Name	No.	
Member Secret Society ?	Name		
Drink ?	Ever work here before ?	When	Shop
Chew ?	Relatives in our employ ?		
Smoke ?	Could do	Experience	
How many positions during last 5 years ?			
Reasons for changing			
Physical data			
Impression			

FIG. 2

whom consideration cannot be given at that time. For example, if a man comes in, as they will, drunk, there is no reason for going through the form of an extended interview. If a man wants a job as a plumber and the firm employs no plumbers, but depends on outside firms, he need not waste any time. Likewise all applicants for laborers' jobs can be dismissed after a sufficient number have been engaged. On general principles, however, there should be some very brief record kept, on a card or slip, as in Fig. 1, showing the man's name and address, the line of work for which he applies, and whether he wishes to be notified of openings in the future.

These records are of value as showing what sort of a flow of workers there is to the plant. If the record has a line showing the last place the man worked, there is a chance to dis-

GROTON PLANT	GROTON IRON WORKS	GROTON, CONN.
APPLICATION FOR EMPLOYMENT		
DATE.....		POSITION WANTED.....
AGE..... IF SKILLED, STATE YOUR EXPERIENCE.....		
.....		
HAVE YOU WORKED HERE BEFORE?.....		WILL YOU DO PIECE WORK?.....
WHERE WERE YOU BORN?.....		
MARRIED OR SINGLE.....		ARE YOU AN AMERICAN CITIZEN?.....
HOW LONG HAVE YOU BEEN IN THIS COUNTRY?.....		
NEAREST RELATIVE		
ADDRESS.....		
ARE YOU EMPLOYED AT PRESENT?.....		PAY PER HOUR.....

FIG. 3 (Front)

References for past three years				Rate
From	To	Name of Employer	Address	
Applicant's Name				
Address				
Approved		Wanted		Not Wanted
Superintendent		Foreman		

FIG. 3 (Back)

cover any tendency of men to leave other concerns in the vicinity; or, if the man has been working in another town, it may give an indication of the conditions of the labor market there.

20. If, after the preliminary interview, it appears worth while, the applicant may be questioned more closely and may be asked to fill out an application form or it may be filled out for him according to his answers to questions asked. Fig. 2 is an example of a quite complete application form; Fig. 3 is a very meager one, while Fig. 4 calls for about all the information that could be required. Table I shows the principal subjects about which information has been asked and recorded by employment departments. Of these, the necessity for some is obvious and for others, questionable. The data listed under the head Historical are nearly always required. Name and address, and shop number and department if the man is hired, are necessary.

Age, usually taken in terms of date of birth, is necessary in some states for all employes under 21 years of age. It may be that an age limit is set by the shop for some or all departments. It is always desirable from a statistical point of view to know whether the average age of the employes of a shop is becoming too high. Old men are useful; but the very fact of their age necessarily implies that younger men should be in training to take their places when the inevitable time comes for them to retire from active work.

Industrial history as given by the man himself is always subject to suspicion; but the writer has had an opportunity to see many thousands of industrial histories thus given, which could be checked up with the histories which they gave to other people in distant camps, and the discrepancies were very few and easily to be accounted for by the lack of knowledge of the trades and industries on the part of the interviewers. These industrial histories are of value for two things: one is, they show the kind of shops in which the man has worked; and from the time which he worked in each a pretty shrewd guess may be made at the length of time he is likely to stay in the next shop. In connection with the industrial history, it is perfectly natural to inquire why the man left each job; and answers to this question give a very good idea of his reactions to the ways of the shops. For example, if he has found the work in one shop too hard, in the next too exact-

RECORD OF TURNOVER

COMPANY

DEPARTMENT.

MONTH

FOREMAN

YEAR

[illegible]

To Compute Percentages
DIVIDE TOTALS BY "DEPARTMENT AVERAGE for MONTH"

Number of Employees
in Department on Last
Day of Last Month :- _____

Last Day
of this
Month :-

Department _____
Average _____
for Month :- _____

TABLE I
SUBJECTS ABOUT WHICH QUESTIONS ARE ASKED
APPLICANTS FOR EMPLOYMENT

Historical	Statistical	Checks
Name	Name	Name
Address	Address	Address
Shop number and department	Home address	Date of birth
Date of birth	Date of birth	Industrial history (complete)
Industrial history (3 or more jobs)	Industrial history (3 or more jobs)	Date of completion of school
Extent of education	Educational history	Desire to improve self
Nationality	Birthplace	Stability
Citizenship	of father	Sobriety
Married	of mother	Personal appearance
References	Citizenship	Courtesy
	First papers	Recreations
	Second papers	Hobbies
	Married	Avocations
	Single	Reading
	Divorced	Willingness to work
	Widower	Knowledge of work
	Children	Activity
	Number	Initiative
	Age	Loyalty
	Sex	
	Working	
	Other dependents	
	Memberships	
	Company organizations	
	Unions	
	Societies	
	Political party	
	Church	
	Army	
	Veteran	

ing, and in the third the management were too particular as to what time he got in in the morning, it is wise to beware of his tendency to take life easy.

Extent of education, while it may not have a bearing on the man's ability to do many different jobs, is important now that

a practical interest is being taken in the Americanization of employes of foreign birth. Facts as to education also are required in many cases where it is necessary to provide school certificates for employes under 21 years of age. Of course in case of expert accountants, laboratory employes, draftsmen, engineers, etc., education is a necessary part of their qualifications.

Nationality is often rather difficult to find out, and is better determined in the manner indicated in the column headed Statistical, where the birthplace of the candidate and that of his father and his mother are requested. So many people are legally Americans, that the question as to nationality answered literally does not assist much in deciding what national proclivities and idiosyncrasies to watch out for.

Whether a man is a *citizen* or not, is of interest to every shop that wishes to make America safe for all of us. It is really wise to see that the alien employes are sufficiently scattered in the shops so that they will have to become Americanized. In fact, this very scattering of aliens where they must learn English or not be able to get on, may prove an even more effective method of Americanization than the evening schools for foreigners, of which so many have been started in recent years.

The *married man* is preferred by nearly all employers, as the result of long experience. This preference is partly based on the selfish knowledge that a married man will put up with a great deal more than a single man without dependents before he will quit; which may be put another way, that the married man is much more sensible and less likely to fly off and quit in a temper than is the single man. Both ways of stating the case mean exactly the same thing. In a way, it is not any part of the shop's business whether a man is married, single, divorced, or widowed, nor how many dependents he may have; but in any state where there are workmen's compensation laws, it is possible that at some time or other it will be advantageous to have that information. The fact that a man has been married and is now divorced is not likely to make him either a better or poorer workman; but the fact

that the divorce has left him with the necessity of hiring a housekeeper to take care of his children may have a great influence on his stability.

References are a point over which there is great room for disagreement. If former employers could be depended on to tell the truth, or to have the truth to tell regarding their workmen, there would be no doubt but that references should be required and looked up. Employers are, however, very much inclined to play safe and answer inquiries concerning former employes by stating only that they did work there on certain work and that they left of their own accord or that they were discharged. This is really about all that is safe to say; because if a workman is prevented from getting another position through any statement which has any false color there may be serious consequences to the maker of the statement.

21. The questions so far discussed include those almost always required. They are, as stated, really historical, but they afford considerable ground for judgment as to the caliber of the candidate.

Under the group headed Statistical, in Table I, are included other subjects for inquiry, the nature of which is such as to make them useful in summarizing the state of the force at any time. In addition to those given under Historical, there is the *home address* when it is different from the local one. This is of value in case of men who have moved to town and left their families behind until they find out how they like the new job, in the case of young men who are working at a distance from their parents, and such other wanderers as have only partly taken root in the city.

For statistical purposes, it is desirable that the *educational history* be given in more detail than just enough to determine the extent of the candidate's acquirements. This is particularly desirable in the case of office employes who are offering evidence of graduation from commercial schools, as after a time these histories furnish a means for judging of the relative merits of the schools as preparatory to work.

Another subject found in the Statistical column, in addition to those already discussed, is *memberships*; this is also a matter for serious consideration. So far as memberships in things officially connected with the company are concerned, there is no doubt that the record may well be kept in the employment department. Among these memberships are included those in agricultural societies, ball clubs, canoe clubs, eating clubs, mutual benefit associations, etc.; but when the question is raised regarding church and political affiliations and membership in unions, it seems futile to ask the questions, as so few men will feel themselves in any way bound to answer truthfully if at all. Of course, if a shop hires only union men, the question is eminently proper; but if the shop is a so-called open shop it creates a suspicion that it is really a shop closed against the unions if this question is asked of candidates.

22. Under the heading Checks, in the third column of Table I, are listed things which become a check on the interviewer, either for his own use, if he is conscientious, or for the occasional use of his superiors. Whatever method of selection may be used, there is little doubt that final selection is usually based pretty largely on personal impressions. These personal impressions may be made at first sight, and too commonly are of that hasty kind. Before anything definite is determined, however, the interviewer ought to satisfy himself as to the whole of the applicant's past history so far as it can have any bearing on his future. There is always the possibility that, even when a man applies for a given definite job, he may be a profitable man to employ in some place of which he never heard. For this reason, the interviewer should inquire into all the applicant's past jobs, as well as the few that are recorded on the application blank.

There are men who have never had more than two or three jobs, but they are extraordinary exceptions to the rule. It is safe to say that at least 90 per cent. of all applicants have had more than four jobs; though, now that so much more employment-management work is being done, they are becoming more canny about telling of any except those that sound well.

For this reason, it is also well to get the man's age, and at another part of the interview the date of his birth and at another time his age when he left school. Many firms also require his reasons for leaving school; but the replies will almost always be, "To go to work," which is only a half truth, as most boys leave school because they do not fit the system. However, knowledge of that fact may almost be assumed. When the candidate has once stated his age and the time he left school, he should account for all the intervening time, even if some of it has been spent in jail, which may be by no means the worst place from which to hire some help.

23. Qualities Desired in Employees.—Employers are looking for certain things in all their workmen, office force, and executives. The man who hires these people has to do the best that he can to get those having the qualifications required. His methods may be very crude and he may fall far short of his or his employer's ideals, but nevertheless it is right that he should keep those ideals before him.

First of all, the employer does not want lazy men. He knows that he has them, and he is not going to discharge his employment manager because he hires more of them; but the employment manager will not hire them if he can help it. Willingness to work is therefore an essential.

The next thing in order of importance is the degree of intelligence possessed by the applicant. He must know how to do the work required or be able to learn. The ability to learn is of importance, since it is beginning to be realized that, especially in the skilled-labor class, a system of training employes is needed. There has been much trouble in shops from the slowing-down influence of imported mechanics and the tendency of those who pick up trades to pick up many bad traits at the same time. On this account, many employers believe that there is sufficient reason for going to the expense of deliberately training all skilled workers for the next generation, in trade schools away from the example of bad workmanship and unsettling propaganda. So knowledge of a trade or ability to learn easily is next in value.

Activity is something to be noted; not that all men should be chosen for their great activity, for there are many jobs in which a physically active man is out of place and on which he will stay only a short time. In shops, there are many jobs that are almost watchmen's jobs, where the workman simply stands around waiting for the machine to either do the work or go wrong. If there was not the danger that something might go wrong, he might go fishing until the stock ran out, but he is really hired for these emergencies. Fortunately, there are a great many men to whom such jobs appeal; but if they are put into active jobs, they are neither happy nor successful.

Certain jobs require the constant use of initiative, imagination, and horse sense; and the employment interviewer needs to be constantly on the lookout for men having these qualities, as it is usually possible to move some other man from such a job in the shop in order to take in one who really has these characteristics.

24. Some jobs require a good personality; others require a man who dresses neatly and who looks well in any kind of clothes. For example, a demonstrator must be able to put on overalls without losing his prestige with the general manager. Men who cannot do this may be very fine demonstrators, but the customer may have made up his mind adversely before he discovers that that particular demonstrator knows what he is talking about.

Sobriety still remains an important factor to be considered, and to all appearances it will for some time, regardless of the eighteenth amendment. It is easy to ask the medical department to determine as to the man's sobriety when they are making the physical examination; but they will probably not admit their ability to judge of it any better than the employment man. The way the question in regard to sobriety is put to a man makes all the difference in the world as to the answer he will give. Most men see nothing immoral about lying as to their purely personal affairs, and no one admits that he drinks enough to affect his work.

25. For many positions in the office, and particularly in the case of men who are applying for jobs for which they will have to be trained, such as recent graduates from school, it is helpful to know what proclivities they have shown in their recreation. A man's avocation may very well be something which he should develop and turn to for a life work. Perhaps he has always wanted to be a photographer, but never had the courage to try it. He may only need a little encouragement. A man who is a mediocre machinist may have a hobby for photography and he may be able to do the work for which a professional is occasionally brought in; a man with a hobby for baseball or other sports may be able to organize shop sports better than a professional, for he can usually be brought to see that production is the aim of the shop as a whole.

If, at the time the man is hired, all these things are made a matter of record, as the impression which he has made on the interviewer, and if this card on which they are recorded is brought out at the time the man is a candidate for an increase in pay, or for promotion, or if he leaves, the employment manager soon gets to have a very good idea of how good a man his interviewer is, whether he is carried away by his likings for one nationality over another, and whether he lets a pretty face and attractive manners overrule his judgment when he is hiring girls. Every interviewer needs just such supervision, even if he has to supervise himself, for every one is likely to wear ruts to travel in unless he is very careful.

26. Place of Interview.—If it is possible to plan the place where the interview is to take place, it should be so located as to be easily found by applicants. It should be on the ground floor and only a step to the sidewalk. While it is desirable that it be centrally located so far as the shop is concerned, it is more important that it be handy to the stranger who is coming for a job the first time. None of the other functions which the employe-relations department has to perform can overshadow this necessity. Of course there are times when men will hunt for a job no matter whether there is an employment office or not and no matter where it is

located; but that is just the time when the employment office has the least to offer and when the shop is making the least money. It is safe to say that, whenever there is business enough for profitable operation of the plant, there is a scarcity of help of the desirable kind. In fact, most personnel offices are organized only under pressure of need for help.

An office on the second floor is only slightly less objectionable than an office in the basement. The latter is the worst, because of the psychological effect on the incoming applicant, the rest of the force, the employes of the personnel office, and the management. This is because anything which is relegated to the basement is understood, wrongly perhaps—but nevertheless it is so understood—to be out of favor with the management. Any one who is asked to apply in or to work in a basement has a feeling that the basement is a dumping place for things undesirable no matter how necessary. If the employment department is regarded as a necessary evil, it should be abolished long enough to determine whether it is needed or not; if it is found necessary, it should be brought up to a level where it will command the services of men who will not accept a job in the cellar.

27. Reception of Applicants.—Unless the shop is very specialized it will require the services of a great variety of employes. However, this is a democracy and the most undesirable man is entitled to comfort while he is waiting for a reply to his request, and he is entitled to as prompt a reply as possible. The practice in the old days when a man wandered into the shop and spoke to the first man he saw and asked for the boss and got his answer in two minutes, had at least the merit of promptness and comfort. When this privilege is taken away, it is necessary to provide a suitable place for men to stay until all the different foremen who may need his services can be called up on the telephone or until the requisitions which they have sent in can be looked over. All that is required is a perfectly plain, clean room with good ventilation, and heat enough so that the ventilation can be kept up in cold weather. Smoking is not usually allowed;

but, no matter what the kind of tobacco, it seems preferable to the body odors which can accumulate from some of our coming citizens. There should be chairs or settees, preferably folding, so they may be gotten well out of the way for cleaning. A floor of concrete, which can be washed down with a hose, is an advantage, as such a room should be cleaned regularly, otherwise the applicants will lose all self-restraint. There are only a few men who will make the first move to defile a room, but there are a great many who will follow examples.

In some places where there are large numbers of applicants, it is customary to hand each man a numbered check as he comes in, and then to call them to the interviewer's desk in the order of their numbers. This is a fairer way than to call for all the blacksmiths, or all the laborers, or, as the writer heard once, all the Swedes. If, however, a man is required in some trade that is not usual in that shop, as, for an example, a mason in a corset shop, then it may be admissible to make inquiry of the whole crowd as to whether there is a mason present or if any one knows a mason who can be obtained.

Where large numbers of people are handled, it is customary to have a very brief preliminary interview and to admit to an inner waiting room such persons as are to be more carefully talked to for present or future employment. This inner waiting room can be subdivided into as many parts as there are interviewers; and by sending all applicants of one class to one interviewer and those of another class to another, and so on, the applicants can be separated so that those of refinement will be much better situated. There is also the additional advantage that the interviewers can be selected for their acquaintance with different kinds of work and thus become experts in the selection of men for different parts of the shop.

28. Interview Rooms.—The practice of having separate rooms for each interviewer with a waiting room for each, is growing in favor over the cheaper plan of having all

interviewers at desks in the same room. Much of what is said between applicant and interviewer is confidential and should not be made public property. This applies both to personal history and to the offer of employment made to the successful candidate. Unless the company makes a definite practice of paying a certain beginning rate to every one taken on for a given job, it is advantageous to have the rate actually paid in individual cases kept confidential. If the next man in line overhears an offer being made that he considers too low, he may not stay for an interview at all; while if he hears one that is higher than he intended to ask, he may demand the same, without regard to his lack of experience as compared with the other man.

If the small room is used, it need only be separated from the others by low partitions, as it is the sense of privacy only that is needed. The lighting should be good, but not glaring, and should fall full on the applicant. The first response to questions is usually through the facial muscles. Intelligence appears often through the eyes, so that much more can be learned about a man by looking at him, than by merely taking down his answers. The equipment is most simple. A table on which to make out the necessary application blank, and two chairs, are sufficient, unless occasionally another chair is needed for an interpreter. It is best, however, not to encourage men in bringing in their friends to talk for them, as this does not help the interviewer to come to any logical conclusion.

29. Functions of the Interviewer.—There is a variety of practice as to the functions of the interviewer. In some cases the man is really hired before he meets this official, in which case the interviewer becomes merely a clerk to secure certain information for the records. In other instances the interviewer makes recommendations to some one individual that a certain man be hired, and that person makes the final decision after looking over the application blank. In this case, the interviewer soon learns how to play up the application to secure the applicant a job and how to write it so that

he will be turned down. In most places, however, the interviewer is the man who settles the whole matter. This seems better, if for no other reason than that the applicant does not find himself passed from hand to hand, but can deal with one man all the way through.

PHYSICAL EXAMINATIONS

30. Purpose of Examinations.—The number of shops at which physical examinations of all applicants for work are required is increasing. The true purpose of such examinations is to enable the employment department to place men where they will be most effective and where their working lives will be lengthened rather than shortened by the work. These examinations have accomplished another thing that is of at least equal value; and that is, they have brought to notice the harmful things in the shops and processes of the company and have often secured their removal or their improvement. The fact that many of the men who are high up in the industries of today worked in shops themselves under any but good conditions, tends to blind them to the shortcomings of their own management when the humanitarian side of it is presented to them. The word of a physician, however, makes a much greater impression on such men than does that of any layman.

The physical examination should be sufficiently thorough to discover any trouble that might cut down production or injure the man if he should keep steadily at the proposed work for a considerable period. A very concise but full form for recording a medical examination is shown in Fig. 5.

31. Place for Examinations.—It is very desirable that the physical examinations be conducted close by the interviewers' rooms, as the doctor and the interviewer should very often wish to confer informally, rather than by written report. The doctor should, however, certify on the record that the candidate may safely work at the job offered him unless the man is in so good condition that he can certify him for any job.

From the doctor's point of view it is desirable that the examination room be close to the infirmary and hospital where accident and illness cases are taken care of. If it is not, there will be delays in getting examinations made, and delays in getting the other work attended to. Similar conditions apply to the location of both the hospital and the employment office, though the hospital can be on a floor higher up if there is an elevator handy for patients who cannot walk to the hospital. The hospital has still more need of light and air than has the employment department, so an arrangement by which the hospital is over the employment room works out well. The equipment needed is quite simple. For treatment of the great majority of accidents and illnesses, a small glass-top table and a chair are all that can be used. It is seldom that a shop is so situated that an operating table is needed. A small room with a bed on which a patient may rest after treatment and care is desirable, though very seldom needed. Industries that are likely to have many eye cases may profitably have a dark room for removal of foreign bodies in the eye. Apparatus for sterilizing instruments, bandages, etc., is necessary. The physical-examination rooms require booths for dressing rooms, scales for weighing the candidate, and the usual eye-test charts. Apparatus for testing blood pressure is usually carried by physicians, but may be provided by the company.

32. Possible Disabilities.—Many works managers will say that there is no need for these physical examinations, on the ground that in their long experience they have never found it necessary, and that they can tell whether a man is sick or not just as well as the doctor. For that reason, it may be desirable to remind such managers of some of the things that may have a great influence on a man's work, which are not usually noticed by a layman. For example, a man may have had at some time a blow on the head, which has left no visible mark, and yet it may have left him in such condition that he cannot, or ought not, go on a staging or any high place. Years ago such men were called cowards and were dared to go up, until they went and fell and were badly hurt. Examination

THOMAS A. EDISON INDUSTRIES
PHYSICAL EXAMINATION RECORD
OF

NO. _____

SEX { MALE
FEMALESINGLE
MARRIED
WIDOWER

DATE _____

HEIGHT _____ FT. _____ IN. WEIGHT _____ LBS.

UNDER { WEIGHT
OVER

EYES O. D. 20 / O. S. 20 / WITH GLASSES O. D. 20 / O. S. 20 /

HEART: _____ LUNGS: _____

	RIGHT	LEFT
TEETH: { NUMBER MISSING	X	
	UPPER-8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8	
	LOWER-8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8	

EXTENSIVE DENTISTRY _____ TONSILS _____

EARS— R. _____ FT. _____ IN. L. _____ FT. _____ IN.

GENERAL APPEARANCE: _____

ROBUST PALLID ANAEMIC WEAK STRONG

SPECIAL COMMENT:

I NOW HAVE ENLARGED INGUINAL RINGS AND THEREFORE HAVE A PREDISPOSITION TO HERNIA. IN CASE AN INGUINAL HERNIA— EITHER SINGLE OR DOUBLE—SHOULD DEVELOP DURING THE TERM OF MY EMPLOYMENT I WILL NOT HOLD THE EMPLOYMENT LIABLE FOR ANY COMPENSATION FOR EITHER TEMPORARY OR PERMANENT DISABILITY UNDER THE NEW JERSEY WORKMEN'S COMPENSATION ACT OR AMENDMENTS THERE TO.

SIGNATURE _____

EXAMINER _____

APPROVED BY _____

M. D.

FIG. 5 (Front)

EYES:			COLOR BLIND		EYE DISEASES	
SUBJECT TO HEADACHE:						
LUNGS:			ABNORMAL PHYSICAL SIGNS:			
DIAGNOSIS:						
HEART:			BLOOD PRESSURE (SEE NOTE)			
APPENDICITIS:						
GENERAL APPEARANCE:		MALNUTRITION		DEFORMITIES		
		GLANDS		PARASITES		
HABITS AS TO ALCOHOL:			TOBACCO:			
HABITS AS TO OTHER FORMS OF STIMULISM:						
SKIN AND MUCOUS MEMBRANE:						
LOSS OF HAIR GENERAL OR LOCAL:						
NOSE: OBSTRUCTED BREATHING CAUSED BY:						
DEFORMITIES:						
NERVOUS SYSTEM:		LOCAL PARALYSIS		EPILEPSY		
		NEURALGIA		ST. VITUS DANCE		
DISEASE OF NERVOUS SYSTEM:						
SUBJECT TO HEADACHES:			SLEEP: WELL POORLY			
EXTREMITIES:		DEFORMITIES		VARICOSE VEINS		
HISTORY OF DISLOCATION:						
FLAT FEET			STIFF JOINTS			
EVIDENCE OF ACTIVE VENEREAL DISEASE:						
SPECIAL COMMENT:						

FIG. 5 (Back)

would show that these men are not malingering, and they may be efficient in positions for which their disability does not unfit them.

33. Some of the common disabilities, which are more or less noticeable, are as follows:

Many men have defective eyesight and do not know it. Men have been totally blind in one eye and never happened to discover it. There are diseases of the retina and the optic nerve that are not correctible by glasses. The layman cannot discover these things, but the examining physician will send the man to an oculist who can definitely determine whether anything can be done or whether the man will have to be assigned to some work requiring limited capacity.

Men sometimes have trouble from two little pockets in the head just above and each side of the nose, causing intense headache for which none of the ordinary remedies produce relief. The pain is so intense that the victim cannot do even the most ordinary work efficiently. A comparatively simple operation will cure or greatly relieve the situation. Most nose troubles are easily relieved, but if they continue to exist they bar a man from comfortably working where there is dust.

Deafness is no bar to many trades, in fact a man may do all the more work because of the lack of distraction. However, no deaf man should be employed where there are dangers of which he could not hear a warning; as, for example, working under a traveling crane or on a staging around a building where some one might knock him off by swinging the end of a stick of timber around, unless he heard the warning yell. Similar dangerous conditions for a deaf man exist in a dye house or tannery around vats containing hot liquid, in a steel mill around the rolls, and so on.

Likewise, a man with a stiff neck, so that he cannot look upwards, should not work under a traveling crane, and he cannot do plastering or any of the jobs that require reaching over his head and seeing what he is doing there.

34. The most common accidents are those to the fingers. Fortunately the considerable number of fingers with which

we are endowed makes it possible to do quite a number of jobs even with two or three missing. The forefinger on the right hand, if the man is right handed, and the thumbs on either hand, are the most necessary for most skilled work. Because the thumb is so much shorter than the other fingers, it is not nearly so likely to be injured, and consequently fewer men lose their jobs on account of injury to it.

Finger and thumb injuries are apt to require amputation, in whole or part; the more difficult ones are smashed members which the owner does not want amputated, but which often become stiff or the broken bones knit together in a bent position and get in the way. It is the man's prerogative to go through life with a useless finger, or one worse than useless because it is unsightly and in the way. If he does not want it removed, it is necessary for him to take work that he can do in spite of it. Most hand, arm, and wrist injuries are as evident to a layman as to the doctor; but it is not always apparent to those in charge that these men can do some things around almost any shop by the assistance of a little rearrangement of the work.

35. A man may have flat feet which cause him such pain that he cannot do work to advantage. He may know how to do it, and he may take the job in all good faith that he can and will put up with the discomfort; but if his feet are very flat, he will almost surely give it up in a short time and simply swell the labor turnover, unless he can sit and get his weight off his feet a considerable part of the time. The medical department will prescribe proper plates to be worn in the shoes, if the case is not too far advanced; but even these and constant strapping do not give relief in bad cases.

Injuries to the toes are apt to be lightly thought of by the layman, who looks on toes as mere dwarfed fingers and of no use; but a man who has lost his large toe has lost his support in walking, and is uncertain in his movements. He should not be employed where his ability to balance is of importance.

36. Hernias are dangerous unless cured by operation, which is usually simple and safe; however, many men prefer

to wear a truss, which is unsafe, because the truss, if worn in such a way as to be of any value, is uncomfortable, so they are apt to loosen it, especially in hot weather. Such men should not be employed where there is lifting of much weight even in emergencies. They are safer where lifting is constantly required than where it is necessary only in emergency; for where lifting is a part of the job they realize the need of self-protection, but under other conditions they get careless.

Old appendicitis operations apparently do not bar a man if the wound of operation is well healed, and if there are no adhesions of the intestines. If there are, the man may look just as well as he ever did and yet not be able to do work requiring much motion of that part of the body, since motion causes pain which can only be borne for a time.

Stomachaches are usually lightly passed over, but a man with a history of repeated attacks should be looked over carefully for hidden ulcers or cancers. He may need work, but he cannot continue at it long; and he should put himself in a position to be cured, if possible, rather than have his trouble aggravated by taking up active work.

37. The greatest single enemy which the layman cannot detect until late is tuberculosis. This is especially dangerous, because it is communicable and one man may injure many others if he does not know that he has this malady or if he does not follow the rules closely. The only right place for sufferers who are in the active stages of the disease is in a sanatorium or at home under competent advice. After their trouble is arrested, they should not do any work that requires strenuous motion of the arms and upper part of the body, because it may break down the wall which has been built up in the lungs to separate the diseased portion from the well. A man who has been through the long struggle to keep the disease in bounds should not be subject to the orders of some foreman ignorant of the effects and who may insist that a man take hold and help for a few minutes at some task that will cause him months if not years of effort to counterbalance. It really seems that in a large shop some special employment

should be assigned to employes in whom tuberculosis has been arrested, and this should be under the care of some foreman who knows thoroughly just what such persons should do and not do, preferably a past victim of the disease himself. In many shops the idea of having either past or present tubercular cases at work is abhorred; and yet, without a thorough medical examination, both forms of cases may be present without proper precautions for either. Barring men from employment because of their past sickness is neither economic nor humane. Such men need work, not only to support themselves but to keep them well mentally as well as physically. They should not be shunned; but while in the active stages they should observe the usual sanatorium regulations just as much at home as elsewhere. The old idea that those recovering from tuberculosis must have a light outdoor job is no longer in good favor; for there are few jobs of that kind, and such persons need to be sheltered from the inclemencies of the weather. They need fresh air and plenty of it, but they need no more than the rest of us do for our own good health.

Bronchitis is a much more common ailment than it was before the World War. Nearly every one had a susceptibility for it, but it took the gassing which so many soldiers experienced to make it a real disability. These men were to all appearances cured before they were discharged, but they were cured under good conditions of ventilation. They had become so accustomed to outdoor life that they found it very hard to get back to their homes and find every "draft" shut out for fear that some one would catch cold. The result of being so closely housed was that they soon became very susceptible to colds, and these colds developed into really bad cases of bronchitis, which, in turn, lowered the vitality of so many that the tubercular germs could become active. Gas probably did not convey tuberculosis but merely acted to make the patient less resistant. For this reason the medical department of every shop owes it to the community to keep close watch of every soldier who was abroad, and those that were in the experimental work in this country and see that they

work under conditions conducive to good health, for that is the one thing necessary to oppose the germ of tuberculosis.

38. Heart trouble is sometimes visible to a layman, but it is more often that the symptoms which he takes for heart disease arise from lung or stomach troubles. However, there are a great many men with heart disease who will outlive others with perfectly sound hearts, and earn a living nevertheless. In at least one hospital, a baseball team went through the whole season with players every one of whom was under treatment for some kind of heart disease, without slowing down the cure of any of them. It is very necessary that these cases be seen at regular intervals by a competent physician, and that the regulations as to the exercise and work which the men may take be rigorously followed. There is no reason for debarring a great many of these men from useful work, and their cure is much more rapid if they are given the substantial encouragement of a job.

Teeth are of course observable by a layman, but he is not apt to look on a few decayed teeth as any hindrance to a man's efficiency in the shop. Yet a man with bad teeth needs more time to masticate his food, and if they are accompanied with abscesses at the roots, he is likely to have rheumatism. If he does not take the extra time to chew his food thoroughly, a larger burden is thrown on his intestines than they should have and he is liable to all sorts of trouble, which keeps him on the sick list when he might otherwise be earning his living. Probably more has been said about the effect of bad teeth than should be, for many people have had their teeth extracted in hopes of curing ailments that existed only in their own imaginations, or that could be relieved by fresh air and proper food.

One of the favorite troubles that workmen have, especially since the advent of workmen's compensation laws, is a sacro-iliac strain, otherwise a backache. Whether or not they have this, is not easily determined by the layman and not much more certainly by the doctor. If a man asserts that he has such a strain, about all that can be done is to believe him, unless he forgets himself and bends over suddenly without

signs of pain. If he really has a serious limitation of motion in his back he is quite likely to have rheumatism. There is also a chance that some fall, regarded as insignificant at the time, may have cracked some one of the little points on the vertebræ to which the muscles are attached. That is, it is not safe to treat any case of alleged backache as malingering, without looking into all the possible ways in which the patient may have been injured

39. The Industrial Physician.—There have not been very many positions for industrial surgeons which are attractive from the point of view of a medical man. A doctor always has hopes of a large and fashionable, not to say profitable, practice. As a young man without experience, he does not see anything in industrial work to lead him to this kind of practice, since it brings him in contact mostly with the kind of patients to whom his minimum charge would be a burden. As he grows older, he either gets his hope and has a large and profitable practice, which he could not possibly afford to give up for any industrial job, or else he does not get it, and the world and himself count him a failure. He is then willing to take an industrial job, but there are no openings for him.

The result is that the few men who do go into industrial surgery are those who are imbued with the missionary spirit and who are willing to make the sacrifice for the sake of the good they can do. When more and more shops see the need and profit in this work, there will undoubtedly come a recognition of the value of the medical man's services, and doctors will be paid for keeping the shop population well instead of on the basis of curing the sick. That is, preventive medicine which is a misnomer because it uses almost no medicine, will take the place of pills for ailments. If a good medical department can reduce the amount of absence from the shop from 5 per cent. to 3 per cent., for example, and the pay roll is \$5,000,000 a year, then \$100,000 is added to the working pay roll. If the firm makes a 10 per cent. profit on the work of its employes, then the department has saved \$10,000, an amount that would be attractive to many excellent surgeons.

RELATIONS OF EMPLOYMENT DEPARTMENT TO THOSE EMPLOYED

40. Approval of Hiring.—Custom varies in different places as to whether the employment manager shall hire the workmen or whether the foreman shall do it. In the latter case, the applicant might be sent to the foreman with a slip such as that shown in Fig. 6, which would serve as a letter of

16G-5M-3-19 Old No. 1694	PERSONNEL SERVICE DEPT.	NO _____ DATE _____ TIME _____ ARRIVED _____
INTERVIEW _____		
OF (TOWN OR CITY) _____		
FOR POSITION AS _____ WORKING NOW? _____		
RECEIVED CARD _____		} APPOINTMENT HOUR _____
" LETTER _____		
PHONED _____		
OWN ACCORD _____ RECOMMENDED BY _____		
INTERESTED THRU _____ (FRIEND, AGENCY, AD, ETC.)		
INDEXES OF CARDS GIVEN		

FIG. 6

introduction. One object of employment work is to take the hit-or-miss method of hiring out of the hands of the foremen and standardize it. The question arises, shall the foreman be consulted or shall the employment department merely send him men according to his requisitions and tell him to do the best he can with them? This is not a single-sided question by any means. The average man looks on the person who gets him or gives him a job as a friend. If he thinks the foreman does the hiring, the foreman is his friend, and the man will try to please him. If he thinks the employment department selected him, he may have a feeling of contempt for the foreman who subserviently took him on. The best way is to have the employe understand that both the employment department and the foreman had an equal share in hiring him

PERSONNEL REQUISITION

SHOP POSITION

THE THOMAS A. EDISON INDUSTRIES

VOID AFTER 21 DAYS

DEPARTMENT _____ DIVISION _____ 192

TO PERSONNEL SERVICE DEPARTMENT:

START WORK _____ 192

PLEASE FURNISH THE FOLLOWING TO

INCREASE FORCE

REPLACE. CHECK NO. _____

NAME _____

ALWAYS SHOW WHETHER INCREASE IN FORCE OR REPLACEMENT

NUMBER	SEX	RATE	HOURS	POSITION	DUTIES

CHECK, OR ADD WORDS FITTING YOUR NEEDS

NATURE OF WORK

QUALIFICATIONS PREFERRED

PERMANENT	DAY	HEAVY	AGE	READ	HANDS COARSE
TEMPORARY	NIGHT	LIGHT	NATIVITY	WRITE	HANDS MEDIUM
TIME WORK	STANDING	FINE	TALL	OR NEITHER	HANDS DELICATE
PIECE WORK	SITTING	COARSE	MEDIUM	GLASSES, YES	RIGHT HANDED
ALTERNATE	OR BOTH		SHORT	GLASSES, NO	LEFT HANDED
BONUS					

OTHER POINTS _____

APPROVED

APPROVED

SIGNED

FOREMAN.

AFTER NECESSARY APPROVALS HAVE BEEN SECURED SEND TO PERSONNEL SERVICE DEPARTMENT

FIG. 7

and he should not be allowed to forget that both parties know that he is there.

This can be accomplished without friction, if the employment department offers its men as candidates only, subject to the approval of the foreman. In that case, the employee realizes that he would not have reached the foreman except through the approval of the employment department, and he also realizes that the approval of the foreman makes the latter an equal factor in the matter. There is really no loss in prerogative for either; and if it is necessary for both to agree

Form 9-8 (600907)
64926-Z

Newport News Shipbuilding and Dry Dock Company
EMPLOYMENT REQUISITION

EMPLOYMENT AGENT: _____ Date 191....

PLEASE ARRANGE TO ^{employ}transfer THE FOLLOWING HELP
FOR.....DEPT. TO TAKE EFFECT.....191....

No. Persons	Nature of Work	Rate	P. W. May Average	White or Colored

If this is for temporary work give probable length of service required

Foreman.

FIG. 8

on the men, there is a better chance of a good selection. The one exception to this is in the case of men who apply at the instance of the foreman and are not approved by the employment department. This is, however, as it should be; for a foreman should never be allowed to hire his own personal friends without some check. There is all too much chance that the employment department will wink at these selections and let the man in without much regard to his merits in order to make it easier to get other and corresponding favors.

Where help is hired by the employment department, the foremen usually make requisitions on that department by use of forms like those shown in Figs. 7 and 8.

41. Identification of Workmen.—When a man is once hired it is necessary to get him on the pay roll, and to give him some means of identification so that the paymaster may give him the proper envelope. This is not necessarily a function of the employment department, but that department is often found to be the easiest place through which to make this identification. The means of accomplishing this identification range from the commonly used brass check to the elaborate schemes of photographs and thumb prints used during war as a means of identifying the employe and of guarding against spies.

The brass check is effective and simple. Possession of the check gives the right to the week's pay. If the man loses the check, he is supposed to report the loss and get a new number and another check, then if the original check is presented there is *prima-facie* evidence of an attempt to defraud. The only danger is that the man who loses the check may not report it until after some other man has presented it and obtained the pay envelope, or the chance that some man with an unpronounceable name may decide to leave the shop and hand over his check to some relative or friend, and the shop thus may change help without being aware of it.

Cardboard passes, signed by the works manager or some high official, are usually the next step. They appear to offer only the advantage that they are not so easily imitated by men who wish to obtain access to the works. After the official has signed the first 500 by hand, however, he is likely to get a rubber stamp for the rest, and from then on he might as well not issue them at all. Photographs are the next resort, but any one can take a photograph. The fact that a man has his photograph on a pass signifies nothing; the question is, is it the photograph of the man it purports to be? One firm, at least, has handled this matter rather cleverly by having a small seal made with which each official photograph is impressed. This seal is not easily duplicated. By photographing the man's shop number with him on the same plate and then imprinting the seal partly over the number, the whole combination is pretty closely tied together. The photograph, however,

should be large enough so that the paymaster or the gateman, or whoever is to see it, can not help looking at it. This cuts out the postage-stamp size, or the motion-picture-film size.

Form 305		EMPLOYMENT RECORD	
No.	Engaged as	Date	
Name		Rate	
Address		Telephone No.	
Single	Married	No. of Children	Age
Total Experience		Nationality	
Last Employer		Address	
Date	Clock No.	Reason for Leaving	
Length of service		Last Wages Received	
Member of Union	Name	No.	
Drink	Chew	Smoke	
Ever Work here before	When	Shop	
Relatives in our employ			
Physical data		Impression	
Years Apprenticeship Served			
Under Whom			
Home Address			
Member Society	Name	OVER	

FIG. 9 (Front)

Rate Changed From	to	date
" "	"	"
" "	"	"
" "	"	"
" "	"	"
" "	"	"
Transferred to	Dept.---Date	
"	"	
"	"	
"	"	
Quit	Reason	Date
Laid-off	Reason	Date
Discharged	Reason	Date
Remarks :		

FIG. 9 (Back)

Nothing much less than 2 inches by 3 inches will be a means of actual identification. One firm used photographs of this size showing both a full front view and a profile. This seems like a very elaborate precaution; but they were engaged in

very important war work and the extra feeling of safety was undoubtedly well worth all its cost.

If photographs are used, the proper time to take them is just after the man has been accepted by the employment department and approved by the medical department, and before he is taken to the shop. In the few cases in which he is rejected by the foreman, his photograph can be crossed from the list and the number assigned him be transferred to some other more fortunate man.

42. Value and Use of Records.—It is very desirable to have ready access to all the information that the shop has regarding every past and present employe. In every case of promotion, or of increase in pay, or lay-off, or accident, or even illness, there is need of immediate use of records. Between whiles, there is the need of keeping statistics, so as to be sure to maintain a proper balance of the various races among the help, and to be able to furnish the other vital statistics which are of constant use to the management.

The forms of records to be used will vary according to circumstances. Fig. 9 shows a small but comprehensive record card. Fig. 10 shows a form record that requires a minimum of writing. Part of this record is in the form of an application and much of the data can be indicated by check marks or by a single word. A record for use after a man is on the job is shown in Fig. 11. In Fig. 12 is a form for a yearly attendance record, and Fig. 13 shows the form for a severance of service card that is sent to the employment department when an employe is discharged or gives notice that he is to leave. This card gives the employment department a chance to review the case. A notice from the personnel department notifying the pay-roll department of the termination of the employe's connection is shown in Fig. 14. Fig. 15 is the form of a report that is an excellent precaution, as by it both the man and the foreman have their attention called to the necessity for instruction in safety.

Almost every employment manager starts his career by trying to develop a single card that will carry all the data

DOWNEY SHIPPING CORPORATION
STATEN ISLAND

Name _____ (Last Name) _____ (First Name) _____ (Middle Name) _____ Date of Birth _____ Place of Birth _____
 Address _____ Company Number (_____)

If not native born, first papers? (_____) Second? (_____) Date came to this Country _____
 Married (_____) Unmarried (_____) Number of Dependents (_____)

Schooling: Name and address school attended	Years	Graduated?	Specialized in
Grammar			
High			
College or Technical			
Trade or Business			

EXPERIENCE (last three jobs):

For what firm (give address)	Dates		Exact duties	Reasons for leaving
	From	To		

What trade do you desire to learn? _____

Describe any experience you have had in furnishing entertainment _____

FIG. 10 (Front)

In the columns to the right draw **TWO LINES** under those occupations at which you are an expert; draw **ONE LINE** under those at which you have worked. After each underlined occupation write also the number of years (i.e. 1, 8, 5,) of experience you have had in that occupation.

If you have worked regularly at any other occupation not mentioned in these columns write it here:

Blacksmith	Gas Cutter and Welder	Shearer
Brass Foundryman	Steel Worker	Rolls
Boiler Maker	Boiler-Up	Joiner
Carpenter	Fitter	Lofisman
Caulker	Riveter	Laborer
Coppersmith	Driller	Machinist
Draftsman	Holder-On	Class
Dockman	Heater Boy	Painter
Electrician	Passer	Pattern Maker
Engineer	Puncher	Pipefitter
Electric Welder	Countersinker	Rigger
Foreman	Planer	Storekeeper

EMPLOYMENT

DATE ENTERED	DEPARTMENT	POSITION	DAILY WAGES	DATE LEAVING	REASONS

RATING

	Very Good	Good	Average	Poor	Very Poor	Remarks
Appearance and manners	()	()	()	()	()	
General intelligence	()	()	()	()	()	
Reliability	()	()	()	()	()	
Ability to supervise men	()	()	()	()	()	
Best fitted for						

Experienced () Learner () Laborer ()

TERMINATION OF SERVICES: Date of Leaving

Reasons

Wages () Hours () Heavy, wet, dusty, etc. () Housing () Change of employment () To what ()
 Insubordination () Incompetence () Intoxication () Irregularity ()

FIG. 10 (Back)

Surname		Given Name		Department		Date Rated	Rate
ADDRESS		Symbol	Check No.				
BEGAN WORK		Hour	Date	New Or Old	Dept.		
Age	Married Single	Children Under Age	Nationality				
Trade	Position						
Q	D	N	LO	Date Terminated	Date Last Worked	Memo.	
Transferred		Date					
TO DEPT.							
REMARKS							

RECORD CARD—MERCHANT SHIPBUILDING CORPORATION

NOTE—When Employee is Transferred This Card Should be Forwarded With Duplicate Transfer (Form 252) to Next Receiving Dept. When Employee is Terminated This Card Should be Forwarded with Duplicate Termination Notice (Form 254) to Employment Office.

NUMBER		ADDRESS																													
SHOP		YEAR																													
DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
January																															
February																															
March																															
April																															
May																															
June																															
July																															
August																															
September																															
October																															
November																															
December																															
NUMBER OF WORKING-DAYS														ATTENDANCE (PER CENT)																	
NUMBER OF ABSENT-DAYS																															

KEY:-- Symbols marked in the left half of a space indicate A. M.; in the right half--P. M.
Days-- **BLACK INK.** Nights-- **RED INK.** Symbols signify as follows:

Unknown...AN...	Unknown...EN...	H--HIRED
Excused...AX...	Excused...EX...	T--TRANSFERRED
Sickness...AS...	Sickness...ES...	F--FINISHED
No work...AK...	No work...EK...	
Disciplined.AD...	Disciplined...ED...	

ABSENT TARDY..AL.. EARLY EXIT RED INK. TARDY..AL.. EARLY EXIT SICKNESS...ES... NO WORK...EK... DISCIPLINED...AD...

Fig. 12

Worcester, Mass.

REPORT ON EMPLOYEE

Date _____ 191_____

Name _____ No. _____ Assigned to Dept. _____ 191 _____

Department _____ Will leave Dept. _____ 191 _____

Cause of leaving

Signed _____ Dept. Head _____

Disposition of Case

Signed _____ Employment _____

Employment

Amount Due

Week ending _____ 191

\$_____ Week ending _____ 191_____

Employment Mgr. _____

For Payment

File

Hospital

Paymaster,

Cost

Noted

FIG. 13

required for each employee. He never succeeds, but sooner or later he either gives up the idea altogether or else he devotes an envelope, or folder, to each case.

The question then arises as to the value of keeping records. Many managers feel that, so far as the men actually on the pay roll are concerned, it is easier to go to them and get any desired information. When the question of increase in pay comes up, the pay roll itself may be consulted. If it is a matter concerning accident insurance or insurance of employees, ask the man or the insurance company. The advisability of

50G-25C-12-20 OLD 1804			
NOTICE FOR REMOVAL FROM		NAME _____	
PRIVATE PAYROLL	☒ CHECK WHICH	NAME NO. _____	
MANFG. PAYROLL	☐	ADDRESS _____	
THOMAS A. EDISON INDUSTRIES		DATE EFFECTIVE _____	
☒ SINGLE	☐	PERSONNEL SERVICE DEPT No. _____	
☒ MARRIED	☐	DEPARTMENT _____	
☐ HEAD OF FAMILY	☐	INDUSTRY _____	
		PERSONNEL SERVICE DEPARTMENT	

FIG. 14

keeping records and what shall be recorded are questions of profit and loss only. If records are never consulted and there is no legitimate reason why they should be consulted, they had best be left unkept. If the only thing taken into account when wages are readjusted is length of service and the last wage received, there is no need of consulting records in the employment office for such data. If all candidates for better jobs are drawn from outside the organization and no one inside is promoted except by favor, the records of the employment department have no value so far as promotion is concerned. If, on the other hand, men are treated in all respects on their records, then the records must be kept in such form

that they can be easily consulted. If the records of only one man in a hundred are consulted, it is cheaper to take similar records of all the men than it is to get that record in an emergency by going to the man or to other sources of information.

If all the data suggested in Art. 20 are kept for each man, the total cost of getting them is negligible. If, as will be explained later, follow-up work is done either in the shop or outside, there must be some report so that the proper action will be taken and so that the amount of follow-up work will be known and its value estimated. Once the record is

Fm. 9-9 (600912) 64162-D	
NEWPORT NEWS SHIPBUILDING AND DRY DOCK CO.	
Date.....	
EMPLOYMENT AGENT:	
I have this day instructed this employee as to his duties and cautioned him against accidents.	
Check No.	Name
Acknowledged.	
Employee	Signed..... Foreman

FIG. 15

taken, it costs almost nothing to place it in the man's folder or envelope.

43. If records are kept at all, there are obvious advantages, from the standpoint of efficiency, in having all the records of each man in one place. Of course there will be a little duplication of work with the pay-roll department; because the latter has the original record of the man's rate of pay. It is, however, desirable that the employment department keep this record, as that department should be a party to the agreement. It is also necessary that the employment department should know what the employe's pay has been when recommendations for increases are pending. There are

so-called employment departments that are not consulted when increases are pending, but they are rather the exception.

The safety engineering department will undoubtedly have need for holding the whole record, folder or envelope, of such men as are under its care through having met with injuries for which they are entitled to compensation, and the medical department may wish to consult the records from time to time, but it is seldom that two departments will need one man's folder at the same time. There will be many times when some matter for which the records are required comes to the attention of the general manager; but that is likely to be in the case of some old and especially worthy employe who is in need of special and peculiar attention, or in case a man has trouble or misunderstanding and the management wishes to know whether to assist him or not. Experience indicates that, when thoroughly kept, these folders are consulted often enough to justify keeping them. However, unless they are kept well they had best not be kept at all. There is likely to be more difficulty in getting well-kept records from the hospital than from all other departments together, as there seems to be something in the make-up of successful medical men which abhors all records; part of this appears to be a reluctance to make written statements about things concerning which they are in doubt, and the rest the natural disregard for order which seems to possess most purely professional persons.

44. Conditions the Employment Department Must Meet.—After the employe is once on the pay roll, the test of the employment department's selection begins. It therefore behooves that department to make sure, so far as possible, that its selections get a fair chance to make good.

When an organization has, through its chosen department, bought labor in large quantities—in even a moderate-size concern the amount is over a million dollars a year—it seems as though it would make every effort toward the best possible use of that supply. This would only be good cooperation. Any newly organized employment department,

however, meets jealousies which, foolish as they are, must be overcome before the department establishes its place in the organization. There are jealousies on the part of the foremen, who enjoy taking an hour off from work and going to some part of the plant to look over the applicants for a job, and who find that they can stay right on the job of supervising their departments while the supply is being gone over and brought to them for inspection. The foremen also feel a loss of prestige, because when they meet a man down town in the evening, when perhaps they are not in condition to make a selection of anything, they cannot promise him a job in the morning. They also feel the danger that they will not be able to get son-in-law a job at a moment's notice.

Also, there are the employment agencies, that have made money out of the shop by sending men to work, then offering them other jobs and getting them new jobs all over again. Their methods are directly the opposite to those of the plant employment department, as the greater the turnover of labor the more money the agencies make. If they can shift a man from one shop to another every month, they make as much money as if they shifted twelve men once a year. These agencies will work indirectly to discredit the new department, even in some cases to the extent of deliberately sending to it the most impossible candidates for jobs. The employment department may be able to make use of some men from this source, but only after giving them fully as careful scrutiny as is given to any others.

Some opposition, also, may develop among the employes themselves, especially the older men who are accustomed to get and hold jobs through personal favor rather than merit.

45. Follow-Up in the Shop.—It is for everybody's interest, not only that the men selected and approved shall do well, but that the management shall know that they do well. If the company is on a piece-work basis, the employe's good work shows on the pay roll, but it is an exceptional shop where half the workmen are on piece work or any form of compensation that requires the keeping of accounts with each

employee in such form as to indicate his value to the company. The rest of the men are usually on day or hour rates, which are likely to have little relation to what they earn for the company. For this reason, it seems that the record of piece-work and premium, or bonus, earnings should be looked over by the employment manager, if for no other reason than that he may know how well the employees of his selection are making out.

Then there should be a general looking over of the shop to find out if any employees are dissatisfied, before their dissatisfaction becomes acute. It is very natural that men hired through the employment department should bring their grievances to the attention of the men in or from that department more readily than they will to the foreman. They have had experiences with foremen whose only answer to a complaint was to discharge the complainer, but they do not suspect the employment department of either the disposition or the power to discharge. A great deal of follow-up work is, therefore, automatic, if the representatives of the department only circulate around the shop; and that they should surely do, if for no other purpose than to keep up to the times as to changes in methods and places where work is done, and to know at first hand what the work is for which they are selecting men, and the conditions under which the work is done.

46. Shop Changes.—A very little experience of the kind just mentioned will show, in almost any shop, that there are things that could be changed to make the work easier or more attractive. These things will vary from little idiosyncrasies of foremen to really vital things affecting the health of the employees. It has been the habit of many shop managers to pass over or ignore such things, and it is only by tabulating complaints, and demonstrating that it costs more to sustain the turnover caused by them than to remedy them, that the employment department can secure attention.

It is a valuable practice to have the foreman make a definite statement regarding each of their men every month or quar-

ter; but the order requiring this statement had best emanate from the office of the works manager or the superintendent, rather than from the employment department. The foremen feel a direct responsibility to their immediate superior only, and very little if any to the employment manager, unless the latter happens to be a member of the board of directors. It is very much of a task for the average foreman to make up such a report. In the first place, he is not a clerk and he dislikes clerical work; in the next place, the chances are against his being sure that he knows all his men by name. If the latter is the case, he ought to have to make such a report frequently, so that he will get to know them. These reports should be turned over to the employment office to be entered on each man's record, and for investigation of any cases where the reports seem to indicate bad placement of men or that men might well be promoted to better jobs. Foremen will be pretty careful about reporting the latter condition; and no very flattering remarks may be expected. However, some way must be found for getting the men into the places for which they are best fitted. This can be done by transfers or by training.

47. Transfers.—If a foreman finds that he has a man working as a helper, who looks well and who is a good worker, he will immediately be interested to develop him into a journeyman. However, if the employment department discovers that a certain man is better fitted for work that another foreman has charge of, the first-mentioned foreman will almost surely make strenuous objections to the transfer of the man. This is partly because of a survival of the old feeling of ownership in human beings and partly in self-defense. It is customary for a shop manager to speak of his workmen as "my men," and for each foreman in the same way to have *his* men. Unconsciously, this becomes something much more than a figure of speech; it becomes an accepted fact, and one that is not apt to be controverted until an employment department is organized. The self-defense idea is based on the assumption that each foreman has personally trained his men and

that they therefore owe him something which can only be repaid by their staying on the job indefinitely. There is likely to be a great difference of opinion about this. A foreman may claim to have "taught so-and-so all that he knows about the trade," but the man may very likely think that the firm never found a man before that could do the work and put up with the interference of that foreman. And the one is just about as likely to be right as the other.

The only solution of the problem of personal ownership is the strong hand of the management. If the works manager says that every man is to be placed where he is most needed, and then takes the matter of so placing the men into his own hands, there is little trouble after the first foreman has threatened to resign unless he can have a given man, and has not done so when the man was transferred. The feeling of personal obligation arising when the foremen train the men can best be avoided by an organized system of training each man for his job, in the way that the company has found most effective.

There can be but little doubt that each foreman should subordinate his views, in regard to the place where a man may be best employed, to some one who is in a position to see the whole job rather than only the portion that comes within the view of the shop man. The works manager may have to take this problem to himself; but, if he does, he will be almost sure to lean heavily on the advice of the employment department, as that department is most likely to be in a position to know what departments are in need of help and where a given man will do the best work. The works manager is in a position of accepted authority, but in most shops shop opinion in regard to the authority of the employment department is still being formed. Impartial service on the part of the employment office in making transfers is sure to produce resentment on the part of the foreman from whom a good workman is taken. Almost every foreman can readily see that men should be distributed where they will do the company the most good, but very few are broad-minded enough to accept the transfer of a valuable man from their own crews without rancor.

HOLDING MEN IN THE SHOP

WAGES AND CONDITIONS

48. **Wages.**—It is trite to say that "Money is not everything," but it is not safe to omit serious consideration of the wages that are offered. When men who leave the company are questioned as to their reasons for so doing, more often than not they will say that they are going to get more money. This may be literally true or it may not. A little questioning by the employment manager or his representative may show that the additional money may prove to be a saving in car fares paid, or it may be that the change will bring the man near home where he can get his lunch for apparently nothing, or it may be that he is going for less money, but he hopes or expects soon to make more on piece work or on bonus. It may be that he is going to get more, but that he is going to a disagreeable job that he intends to drop just as soon as he gets that additional \$50 that he must pay on a graphophone that he bought in a fit of spending. There are men who make a regular round of shops where, alternately, in one they have an easy time at small wages and in the next they get big wages for hard disagreeable work. So it is safe to say that every pay roll is made up of two parts: one, the smallest amount for which the necessary help could be got under the best working conditions; the other, the excess paid because of wet, dirty, dusty, and other disagreeable conditions, distance from housing, bad transportation facilities, and a multitude of other disadvantages. The effect of many of these can be fairly well estimated, and the advisability of remedying them can be determined from a profit-and-loss standpoint.

49. Independent of considerations such as mentioned, the rate of wages is usually a fluctuating value determined by the state of the labor market. Of late years, in response to public opinion, and in rare cases to minimum-wage laws, the minimum wage has been set at something above the lowest level at which labor could be obtained. Public opinion abhors

the idea of treating labor as a commodity, since it amounts to very much the same thing as treating men as a commodity. There is a very distinct feeling that a laborer should be paid enough to enable him to maintain the "American standard of living," a rather indefinite term which is usually understood to mean that he shall be able to purchase for his family all the necessities and many luxuries. That is, he should be able to keep a good tight roof over their heads, have a warm house in the winter, food that is plentiful and nourishing, clothing that is warm and lasting and not distinguishable from the ordinary garb of the wealthy, and a reasonable amount of recreation. This very reasonable requisition has been more than filled at some times and has not for any extended length of time been withheld from workmen in this country.

Beyond this, however, wages have advanced in times of scarcity of labor with bounds that were seemingly out of all proportion to the forbearance with which employers have failed to follow the labor market on its downward swings. When there is even a very slight undersupply of labor, it is possible, for those who wish, to put their labor on the auction block and sell it to the highest bidder. At such times it is almost certain that employers are in a position to exact higher prices from the purchasing public, and in order to take advantage of the high market for their wares they pay any demand for higher wages, with only a show of reluctance. In the parlance of the fields, they "Make hay while the sun shines." The injurious effects of this short-sighted policy are too evident to need any discussion.

Just what proportion of the selling price of any article belongs to labor, how much to management, and how much to invested capital and borrowed money, is problematic. So long as people are so easily influenced by untruths, so easily scared by the fear of things that never happen, there are likely to be serious ups and downs in business. Whenever there appears to be a large margin of profit in any one line of business, there are numbers of people who see an opportunity to make a large profit, and who think they are keen

enough to get out before the crash comes. The automobile business is a case in point. The electrical business has had a similar experience; and even today there are people who think that electricity is "only in its infancy," and that they can enter the business without previous training, capital, or experience and take some of the supposed enormous profits now being monopolized by the large companies. They look at an electric flat iron, figure what the materials cost, and assume the price is two-thirds profit, only to discover their mistake when the bankruptcy court relieves them of the necessity for paying further for their experience.

50. Since labor rates follow the market so closely, it is part of the employment department's work to keep in close touch with the market. This the employment manager is in a position to do if he will take all the stories told him, both by men who want jobs and those who are leaving for "better ones," with a grain of salt. All of them have incentives for exaggeration, and some will exaggerate more than others, but if the statements of the most imaginative applicants are properly discounted, the result will likely be fairly near the truth. Rates as quoted by competitors for the same help will probably be about as much low as the rates stated by the men themselves are high. This is no reflection on the truthfulness of either, as there is usually some flexibility in rates, and often the general manager is unaware that wages have risen in his shop until some little time after the change.

As a basis of comparison, almost all wages are now quoted at so many cents per hour. The actual income has to be arrived at by knowing how many hours make a week of regular time, how much overtime, if any, is being worked, and what percentage of the year the work goes on. For example a bricklayer in the latitude of New York who works over 200 days per year is very fortunate. If the members of his craft are able to reduce the working week to 40 hours, as is the case in some instances, it is easy to see that he works only about a half of what was formerly considered a working year; namely, 3,000 hours. If in that time he must get a wage

that will support his family on the American standard of living as previously defined, it is evident that he must work very efficiently or else get paid for what he does out of proportion to those whose trade permits of more days of work and whose ideas include a longer working day and week.

The hourly wage rate is undoubtedly the most common method of paying for men's work, whether in common labor, semiskilled, or expert. Unless, however, it is coupled with a fairly definite idea of what constitutes a day's work, it is a very inefficient method of paying for labor. If, on the other hand, it is understood that a day's work of 8 hours, for example, covers the laying of 1,200 bricks, then it becomes virtually a straight piece-work rate in which slight daily fluctuations are covered by the day rate. Every man then knows that if he falls below that rate he will have to look for another job, unless the foreman is virtually willing to make him a loan of the money represented by his failure to make the pace, with the expectation that the loan will be repaid by more rapid work some other day in the immediate future.

51. More often than not, the day rate simply indicates the inability of the employer to say what he thinks his workmen should accomplish in a day. This inability comes from a lack of knowledge of just how the work should be done. The importance of knowing the different methods by which work is done is illustrated by a piece of work in a machine shop; for example, a planer job that requires a considerable amount of time for setting up. The first time a job of this kind is to be done it may come into the shop when all the other planers are running on simple flat jobs requiring a minimum of blocking and straps. The time is kept track of and recorded. The second time it comes in, all the other planers may be using large quantities of blocking, and it may take twice as long to do the job as it did in the first instance, because of the time spent trying to find suitable tools with which to set it up, and because it was finally set up so that only the most careful cuts could be taken for fear of tumbling the whole job down. Of course, when

such a piece is to be manufactured regularly, there will be a cradle provided into which it can be set with only a few minutes' work for leveling, and it will be firm enough so that cuts up to the limit of the strength of the piece can be taken. Then the employer can make a piece-work rate that will undoubtedly be fair; but then he has reached a basis where he can also tell from the time slips whether the operative is doing a full day's work on an hourly basis. The opportunity for a highly skilled man to earn a great deal of money for the firm was in the crude first stages, when he had to use his ingenuity to make whatever tackle he could find hold the job securely, without using a long time to find it.

Day work in itself offers incentive to effort only as the day wage is high enough so that the workman knows perfectly well that no one else will give him so good a job if he leaves this one.

Such incentive, however, has no permanent value. Either other employers raise their wages to come up to this higher standard or else the men grow to get the idea that because they continue to get this wage they are so valuable that the first employer will not drop them. So to the lure of a higher wage there must be added the negative inducement of a constant, though small, stream of men being discharged because they do not keep up to the company's standards of production. This is unfortunate, but it is human nature to grow to feel that we are very important to an organization, and also easy to get the idea that we are doing a great amount of work. Activity and laziness are only relative terms. A man can keep busy doing a very small amount of work. He becomes a putterer, and a putterer in the very great majority of cases only delays production. There is very little work that is really improved by being done better or more closely to size and with a better finish than is prescribed by the management. The man who grows to feel that it is very important that his work be exactly so, begins soon to exaggerate his own importance and to feel that he should be pressed less and less for quantity production.

The cure for all of this tendency to laziness, and to self-

importance is some form of wage payment that will put a premium on production. However, no system of this kind should be installed without first weighing carefully the advantages to be gained against the increased cost of inspection and the increased danger of spoiled work.

52. Inspection.—When artisans work at day rates, their work is almost always well self-inspected within the limits of their knowledge of its requirements. Inspection in such cases depends mainly on the interest that the employes feel in the product. The men who assemble the finished product and those who apply the finish, as, for example, painters and upholsterers, can be depended on to do uniformly good work much more than can the men who run screw machines making some obscure part of the transmission. Many efforts have been made, and successfully, to make employes realize the importance of their part of the work, with the idea of bringing up the quality of the product. For example, a large manufacturer of women's clothing has stereopticon slides of all the different parts of the works showing the processes of manufacture, and these pictures are shown to each group of employes. As compared with another large works where the employes in one department know nothing of the processes in any room but their own, except for the stories which are told by fellow employes, the difference in morale is easily visible to any chance visitor.

Inspection, however, becomes a necessary part of any manufacturing as soon as the business outgrows a very modest beginning; and it needs to be more carefully done if piece rates are used than if the work is done by the hour or day. This more careful inspection, however, costs money, which must be balanced against the increased production expected. As a rule, workmen in any but the smallest shop do not feel antagonistic toward an inspector, especially if they are convinced that he has no favorites. There is no doubt that every one enjoys seeing the mighty fall at times; and an inspector who occasionally turns back work on a man who is related to the management, or who has a reputation for being always

right, achieves a place of honor in the minds of the rest of the employes whose work he is inspecting.

53. Piece Work.—The best known and most abused method of getting production by means of financial rewards is the piece-rate plan, in which a price is set for doing each operation or group of operations. This plan had its greatest vogue at about the time of the Civil War, when the plan of farming out work to contractors was much in use. Then a contractor would make a bid for doing all the work of building a steam engine, for example. He assumed only the cost of labor and such part of the overhead charges as the wear on the tools used by his workmen, the oil they consumed, and the very light burden of bookkeeping and cost accounting which he usually did in his head. He paid his workmen from his own funds and usually paid them by the piece. He was a workman himself and able to demonstrate to any workman who questioned him that a capable man could make good wages at the rates which he offered. He set his rates from personal experience, and he really did know what could be done. Needless to say, there is not a great deal of production now on a basis of this kind. The success of this type of management was based on an abundance of skilled help, or of young men and boys of high intelligence who learned rapidly and thoroughly. Many of these former contractors are managers of large companies today. It is doubtful if there could be any better school of efficiency. These contractors seldom had more than fifty men under them, but they gave them their undivided attention, they were right on the job, and, being very capable men, earned and made large profits. A profit of \$5,000 a year (worth \$10,000 now) was not unusual from fifty men.

54. In the process of evolution, the proprietors of these shops, whose function it was to secure orders, buy materials and equipment, and furnish rent, power, heat, and light, became jealous of these contractors, who often made a greater profit than did the owner of the business, and tried to combine their own functions and those of the contractor. In their

avariciousness, or perhaps because of their lack of knowledge of human nature, they also became jealous of the high wages which they found the workmen made. The contractors had made money out of seemingly nothing and were very content to live and let live, so they did not mind if their workmen made a good thing of it also; but the commercial spirit of the capitalist urged him to take every dollar in sight, with the result that he put piece rates in bad repute by cutting them whenever he saw a chance for a workman to live on a less rate than he was getting. As soon as this became the established plan, workmen naturally observed what rate per day the owner appeared to be willing to allow, and then worked just fast enough to approach close to that limit. That is, they went back to virtually a day rate, though ostensibly paid by the piece. The memory of those days, or the story of them, still stands as a great obstacle to the revival of straight piece work.

An additional disadvantage of the piece-rate system is the danger of setting rates without positive knowledge of just what the workman can earn if he will. A common cause of error is the attempting to set a rate on a new job from observation of the time required to do the work with insufficient or makeshift equipment; but there are still more cases where the man who sets the rate simply does not know how to do the job himself, nor how fast it can be done without undue weariness. Theoretically, piece work is the best system to use, for the earnings are easily figured, as they are in direct proportion to the number of parts done. It is easily understood; but its weak point is in the necessity for having the rates set by experience, and prorated scientifically for different sizes and variations, and it has only been recently that men who could combine experience and science were available.

55. Premium System.—Under the premium system, the hourly rate is guaranteed to each workman so long as he is retained on the job. A standard day's work is set. If he exceeds that amount, he receives from a quarter to a half of

the saving. For example, suppose that his hourly rate is 50 cents and that he is supposed to do a given job in 8 hours. If he does this work in 6 hours and the premium is one-half the hourly rate, 50 cents additional will be allowed him for the 2 hours which he has saved. If he goes on and completes the 8-hour day at the same rate, his total earnings for the day will be \$4.67, or an increase of one-sixth in his pay for accomplishing \$5.33 worth of work. The purpose of the premium system is to do away with some of the apparent loss due to the rate fixer's lack of knowledge of workmen's capacity for production.

Under the piece-rate system a man who is skilful and slightly avaricious may make large wages for a short period of time. While he is earning this high rate, there is a great tendency on the part of managers and superintendents to cut him down, either directly, or by rearranging the work and establishing new piece rates, which is not much better than a subterfuge. Under the premium system, this increase in productivity is not rewarded in proportion to the amount produced, but excess production only brings from a quarter to a half of the extra pay that would be earned under a straight piece-work rate based on the same conditions under which the basic or normal production is figured for the premium rate.

The advantages of the system are that the men know that they will continue to get their hourly rate plus whatever their premium may be. However, in making comparison of wages between shops, it will almost always be found that workmen compare on the basis of their hourly rate. Very few figure back to see how much they really receive for each hour worked. They seem to assume, often wrongly, that the same opportunity to earn an extra premium or bonus exists in all shops, and too often fail to make inquiry until they have worked for a week or more. The workman who thinks the matter through discovers that under the premium system he actually receives less per unit of work completed as he accomplishes more. He realizes that the limitations of machinery and equipment and his own strength do not permit him to increase his production beyond a certain limit, and the limitations of the

premium system do not pay him proportionately for the increased effort. He is told that his increased production is expensive to his employer, as it wears out the machinery faster, uses more power and more unskilled labor to bring him his work and take it away. He probably takes little account of this statement, as, if he is able to see through the plan at all, he can see that the total overhead charges of the company per unit of production are considerably decreased by the rapidity with which he gets the work through the shop.

56. Differential Piece-Rate System.—The expression, *differential piece rate*, does not convey exactly the idea that it should, but the name is in use. The system consists of setting two piece rates, one for slow workers and one for rapid men. The piece rate for high production is the higher rate of the two, which is the direct opposite to the premium plan. That is, the man who achieves the rapid production rate finds his efforts very liberally rewarded suddenly. If he drops back below the limit, he finds that he has lost just as suddenly. This system can be installed safely only where the work is sufficiently repetitive so that plenty of time and effort can be put into finding what a man can be expected to accomplish. Under this plan the good workers are so liberally rewarded, so long as they keep up production, that there is not much danger of their being attracted by other shops operating on other plans of payment. On the other hand, the penalty for not keeping up to the standard rate is so prompt and acute that workmen are in no danger of becoming puffed up. The plan ultimately eliminates most of the slow workers with the exception of those few who have become reconciled to small wages and to whom surety of employment is of more consequence than large pay. That is, those who have lost hope or who have a sufficient income from other sources so that all they require is a place to spend some of their time and nothing to worry about.

The differential piece rate recognizes that increased production reduces the overhead charge per unit of work, and shares that reduction to some extent with the workman.

The principal objection to its use is the considerable addition to the overhead, occasioned by the expensive study of the methods of production before it is put in effect. It will not do to base the two piece rates on past experience with either day rates or straight piece work. It should be based on experiment and analysis of the job into its elements, almost into the motions to be made in performing operations. For example, the scraping of a lathe carriage onto its bed may easily take 10 hours for a medium size and length of lathe. If, however, the planer hands who plane both parts have had a little experience at scraping, it is possible to get the planing so well done that the required time for exactly as good a job is only 2 hours. The excess time for planing is not more than a few minutes per piece. If this work is put on piece rates or on differential piece rate, then the scraper hand who finds that he can earn so much more if the planing is well done may very likely offer a substantial bonus of his own to the planer hand; because, the expenditure of a few minutes' extra time may make this rapid scraping possible. In such a case, the rates for both planing and scraping should have been so set as to make it profitable for both men to do their best work, first by giving the planer hand a liberal enough rate so that he will not leave his work rough and distorted in order to make the higher piece rate, and second, by making the rate for the scraper hand such that he will, by diligence and the application of brain power, complete the work within the time allotted.

57. Task and Bonus Plan.—One of the troubles with the differential piece-rate system is the difficulty of getting men to make the necessary effort to reach the higher piece rate. To overcome this trouble, Mr. H. L. Gantt used a plan which gives each man a guaranteed rate for the time spent; but if the man reaches or exceeds a predetermined production, called a *task*, he receives a bonus in the form of additional time allowed. This bonus may be as much as a quarter or a half of the time taken to complete the task. The task is usually high and the bonus is high to make it worth working for.

This system has the advantage of a sudden jump in pay earned if the task for the day is accomplished. In other words, it has the psychological effect of giving or withholding a substantial reward according as a certain limit of production is reached or not. The workman knows that he will have to pay close attention to his work to make this reward; therefore, he is not likely to develop egotistical tendencies. Another advantage is that each man knows that he will make his day rate, and that whatever he gets above that is his incentive for the extra work. Therefore, his profits, as distinguished from his guaranteed day's pay, are plainly apparent.

58. The Bigelow Bonus Plan.—Under the Bigelow bonus plan, a piece rate is set which grows larger as production increases. The low, or initial, rate is set for a production that all can attain easily. That is, if a man can at the very outside produce 100 pieces per day, it is assumed that any man may reach 60 pieces, for example, and a piece rate is set that will allow a living wage to be made at that rate of production. Whenever the man pushes up his production above the 60 pieces, his piece rate is *increased* so that if he should reach the ideal, or 100-per-cent. production, he would receive a 40-per-cent. increase over his piece rate. This gives a larger inducement for production than any of the other systems, and is directly contrary to the old piece rate with its constant cuts whenever a man succeeded in finding a way to make a large income. It frankly says that large production effects such decrease in overhead expenses that the management can better afford to give the money to the workers than to people who merely add to the overhead charges, important though they may be. One objection to this system is the temptation which it puts on an employer to reduce rates, as in the old piece-work plan, when business is very bad and the only way to get it appears to be to cut prices, a practice that appears to do no one any but the most temporary good. Another objection is the danger that men who are overambitious may injure themselves by overwork. The method should not be applied to purely manual work without a stopping place; because,

even though some men might be well able to do a great amount of work without injury, there will inevitably be many who must be hired in order to get all the work done, who would be badly injured if they did all the work that a large, strong, and capable man can do.

59. Résumé.—Taking all these systems as they have come, we are struck with the educational process through which employers have gone. First was the day wage, an expression of ignorance of what a workman should be able to do. Then piece work, abused by cutting rates to make it practically a day-wage system. Then the discovery by Taylor that a high wage is most profitable if it can always be kept before the worker that his continued prosperity is dependent on constant effort. Then the Gantt system, which takes into account the fact that men need and demand a minimum wage which will permit of the necessities of life. Then the Bigelow system, which frankly admits that the workman is entitled to a share in the reduction of overhead charges for which he is himself responsible. What further remains to be discovered does not appear. The Bigelow system takes each man into partnership so far as his own work is concerned, but it does not make him a partner in the work of others

NON-FINANCIAL CONSIDERATIONS

60. Hard Work.—Money earned, especially if the workman knows constantly that he is liable not to be able to keep up his wage unless he keeps up his work, has a strong attraction. However, it is very true that other considerations weigh more than money at times. First of all, men get tired and worn out, not with too hard work, but with too much monotony. Almost always when a man says that the work is too hard and that he must leave the job for an easier one, the real reason will be found to be the sameness of the job, and his weariness is mental rather than physical. This is just as bad for the firm, however, as though he really were made sick by excess of work. Of course there are cases where

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physical work does exhaust, as, for example, in shoveling coal, digging ditches, etc. A bystander, watching a ditch being dug by hand, and especially on a municipal job, is very apt to have something to say about the laziness of people who work for the government. What he should say is that it is very inefficient to employ men to dig, if there is any other way of getting it done. No one can work continuously at it, to say nothing of keeping up a pace that seems at all hurried. It is very likely that the average man could do all the work there is in him in a 6-hour day, and that is about what he does as it is. The rest of the time is spent straightening up and getting the kinks out of his back, lighting a pipe, getting a drink of water, and other little subterfuges which really express a necessity rather than any desire to soldier on the job.

61. Disagreeable Work.—When there is a choice, men do not take jobs that are dirty, dusty, wet, monotonous, heavy, or dangerous, without greater rewards of some kind or other. Men are not adapted or intended by nature to be beasts of burden, and they cannot work continuously at heavy work. Dusty work is not only disagreeable but it is likely to lead to illness. Almost every one has some bronchitis, and we always will have so long as we live in cities instead of in fresh air. Bronchitis is aggravated by dust, then pneumonia is easily acquired, and from that to a weakened system that lets the tubercular germ multiply is only one more step.

By a dirty job is meant one that makes it difficult ever to get clean except by taking a vacation. For example, a man working in a machine shop on cast iron continually is likely to find that it penetrates his clothes, works into the lines of his hands, fills his nostrils, and undoubtedly gets into his lungs. The same is true of a blacksmith's work, especially with a soft-coal fire. Men who take such jobs have to associate outside working hours with those who are not fastidious about cleanliness, or else with others like themselves who cannot make themselves presentable. Some of these dirty jobs cannot be prevented in the present stage of the art, but such of them as can, are likely to prove more profitable for the change.

The greatest appeal to Americanism comes through pride, and we cannot expect people to be proud of their country unless they can hold up their own heads in any society.

Wet jobs are disliked only as the wetness is harmful to health, or as it is a dirty wetness. There is seldom any trouble getting candidates for the job of life-guard at the beaches, and of all jobs there is none wetter. On the other hand, a man who slops around all day and all the year and possibly for a lifetime in a tannery, always wants an extra reward for doing it over what he would take to work at a nice, clean, comfortable job.

62. Danger.—Dangerous jobs are always calling for a premium to the worker, unless there is something about the job that appeals to a man's vanity. Structural-steel workers have a very dangerous calling, part of which is paid for in the pay envelope and part of which comes from the admiration of the crowds that gather around and watch and appreciate the performance. The same is even more true of circus performers, riggers, and other men whose work depends on sureness of foot and hand, and whose work is in the public gaze.

Most dangerous jobs in manufacture have nothing of the spectacular about them and consequently have to be paid for in cash only. Some of them conceal hidden dangers and are accepted by workmen without any thought that they are dangerous. Some become dangerous only at times, some only through the carelessness of fellow workers. For example, a man may work under a traveling crane for years and never even witness an accident. There may be a change in the personnel of the gang that attends to moving machinery and castings, and the new gang may not understand the business, or they may be careless, and a casting may be dropped directly on the man, killing him or maiming him for life. Every such accident affects the labor turnover. If the men who witnessed the accident do not take the news home to their families, the latter get it from the newspapers and then secure all the details from the wage earner. Then they set up a process of begging

him to be careful which turns into nagging, and the man is soon ready to look up a new job, even if he has to take a lower wage to get it. This may seem a small thing to increase the labor turnover, but it should be borne in mind that these things come very close to workmen who have nothing saved up and whose only hope of keeping out of the poorhouse is a constant job. Of late years, the workmen's compensation laws have improved conditions somewhat; but none of them provide for all of the loss sustained, for fear of encouraging malingering, and it is only very recently that serious consideration has been given to any means for training industrial cripples for worth-while jobs. Every wife who sees a cripple on the sidewalk selling pencils, looks on him as a warning of what her husband may come to, and there is little doubt but that such things have a strong influence and rightfully so.

63. Comfort of Mind.—Mental anxiety, fear, and worry are just as harmful as the things that are worried about. They prevent men from doing their best work. Whenever a man who has been in the habit of doing well begins to lose his interest, and decreases his production, it is wise to inquire into affairs which may affect him mentally as well as physically. It may be that some one in the shop is annoying him, it may be that he owes money that he cannot see his way to pay, he may be having trouble at home, he may have a son that is causing him anxiety. Instead of discharging him out of hand, which only aggravates his trouble, it is better to adopt a sympathetic attitude and try to discover just what is at the bottom of his troubles. It is very possible that the employment manager can find a way to reassure him and help him out of the predicament he is in, or which he fears he is in, as happens in the larger number of cases.

64. The surroundings in which men are placed have a greater influence on their productivity than many imagine. If a man is not sensitive to his surroundings, that in itself should be reason enough for questioning whether work that requires mental alertness should be entrusted to him. That is, instead of accusing men who are fastidious about their sur-

roundings of being eccentric, it is more to the point to realize that men who are responsible for things requiring thinking capacity must have a considerable degree of sensitiveness themselves.

The surroundings which affect people may be the room, the outlook, the atmosphere, or the people with whom they are thrown in contact; or whose voices they hear. For example, in a large office one man broke up the morale of the whole force because, not being used to working among others, he raised his voice so high when telephoning as to cause a hush all over the room. When he was placed in a small room, he used his natural voice and everything was all right. In this case the man's personality was of the best; simply he could not get used to telephoning where he had to listen closely to get the other man's conversation. There are, however, many cases of men who are discordant who do not intend to be and whom it is almost impossible to dispense with and feel that justice has been done—men whose intentions are of the best, but who through lack of knowledge of English are constantly saying things that lead to misunderstandings. This is not confined to clerks and workmen; a great many business men who have made considerable sums of money have very little acquaintance with the subtleties of the English language.

65. Then, there are the men who apparently deliberately intend to wreck the morale of the place; who go about misrepresenting each person to others, who aggravate each man's known animosities by sly statements that are founded on fact, but which are given a very different sound from that intended. For example, a works manager had a favorite method of introducing a topic on which he wished an opinion, by saying, "so-and-so says you are all wrong about it," when as a matter of fact the first man had merely raised the question as to the most politic method of doing the thing. Things like these irritate men and finally bring them to the point where they are ready to look with favor on other positions which otherwise would not be attractive. The only way to handle such situations is to get clear to the root of the matter and insist that

all private grudges be brought into the open and that all idle and meaningless gossip be omitted. If two men who have antipathies are brought together and the trouble is traced back to the thing that started it, it is very seldom that it does not turn out to be some trivial and misunderstood difference that could have been quickly ironed out by an appeal to the men's loyalty to the company. It does not take a large force to have enough of these feuds going on to make all the difference between a comfortable profit and none at all, due to the way such men use their authority in the company to put some other man in a wrong light with the management.

66. Tenure of job is of great importance to men with families to support. There is a very decided and well-founded desire on the part of most firms to have as large a proportion of married men in their employ as possible, and yet some of them overlook the fact that such men will always choose to work for a firm that is known not to be hasty about dismissing employees. For this reason, if no other, a reputation for fairness toward employees is worth considerable effort. Every man who is turned out without just cause, or who is dropped because of a slight letting up of orders, tends to reduce the desirability of the job for some one else. The common practice of letting men without dependents go first in case of business depression is an excellent one, as it gives men who have dependents a much greater confidence in their own future.

It is probably not a good idea to make tenure of job anything definite. That is, removals of men who turn out to be destroyers of morale and who cannot be made to see the falsity of their position should always be possible. Men should have no chance to feel that they can slacken their efforts to do a good day's work and still be retained on the pay roll. However, it should be possible for any man to feel that the mere fact that he is approaching a given age does not make his working days more precarious.

The establishment of an age limit for entrance into employment or as a time when a pension system is to go into effect, with compulsory retirement, is not altogether justified;

because the number of years of a man's life has such a variable relation to his mental and physical condition that, with a fixed retiring age, one man may be carried long after he should have retired and another may be cut off years before his work should have ended. It is a fact, however, that a man's physical powers begin to recede just about as his mental powers grow. Men can seldom stay in active athletics much beyond the age of thirty. At thirty they are only developing the power to reason and think straight. They may be as intelligent at eighteen as at thirty, but they have not had an opportunity to gather the experience which is needed to round out a man's education, and despite all the advances of science we still have to work from experience rather than from pure reason.

It seems as though the time of entrance into an organization should be determined by the work which the man is to do. If the work is physical labor, the determination should be made by the medical department; if mental, by the man's own past history. It seems to be a fact that men's minds grow in capacity with added experience, and it is only the tendency to cling to older associates and to turn away from young men which makes a man grow old mentally. If a man of mature age keeps up his association with the younger men, on a plane of equality, there is no good reason why he should not continue to grow in value to his employer so long as he retains his physical health.

The theory advanced by some, that if a man has not made his mark in the world by the time he is of some certain age, anywhere from forty to fifty, he is a failure and should be debarred from employment altogether, is another thing that is hardly justified by experience. Very few men, as compared with the great number, make a success of business at any age. Very few men who would be successful in business for themselves would be satisfactory employes. Ability to make money appears to have little relation to intelligence, mechanical ability, or to any other measurable attribute. Men over 50 years old do work and must work. If they are so unfortunate as to have become as old in spirit as in years

they may be content to take gradually less and less pay and to gracefully slip into oblivion. If on the other hand they keep young in spirit, they become the advisers of the younger men, and the ones to whom every one instinctively turns for help in new and untried positions. Again, it is a poor organization that does not effectively utilize all the abilities of each employe. The physical energy of youth, the studious attitude of some, the belligerency of one race, and the servility of another, the experience of middle age, and the counsel of advancing years are all a part of the world in which we live. If all are not used, we are just as improvident as those who harvest only the largest fruit and leave the rest to rot because it is not easy to pick.

MEMORY HELPS

He who can answer the following questions from memory has a good understanding of the text in the preceding pages.

- (1) When trade tests of applicants for employment are made, is it necessary or advisable to change the tests frequently?
- (2) What information important to the employment department can be obtained from a man's industrial history?
- (3) In what part of a plant should the employment department be located?
- (4) What is the purpose of making physical examinations of applicants for employment?
- (5) What is the preferred method of keeping data regarding employes?
- (6) Why is it advisable that the employment department keep in touch with the employes after they are hired?
- (7) What three conditions, other than increased daily or hourly rate, might a workman consider equivalent to more money, or increased wages?
- (8) In planning the installation of a wage system that puts a premium on production, what disadvantages must be taken into account?
- (9) What is the differential piece-rate system?
- (10) What three non-financial considerations have influence in attracting men to or repelling them from certain jobs?

PERSONNEL RELATIONS

(PART 2)

LABOR TURNOVER

METHODS OF COMPUTING TURNOVER

1. Cost of Turnover.—When the loss caused by a too rapid flow of workmen through the shops first began to attract attention, the first discussion of this matter bore principally on the great cost of rapid turnover to industry as a whole, because of the necessity of training a great many more men for jobs than seemed to be necessary. This discussion did not, however, take into account the employe's side of the question. It did not take account of the lack of means for fully learning any trade, and it failed to call attention to the fact that men really need to know how to do more than one thing because of the rapid changes in modern business methods.

Briefly, the statement was made that on the average men changed jobs oftener than once a year, and that if they stayed on each job for five years instead of one, the total cost of training or breaking in new men would be reduced in that proportion. If the cost of changing men on a job was some certain amount, as, for example, \$50, then in shops employing any considerable number of men the saving would be easily computed and would be a large amount.

In a shop employing 5,000 men, a reduction in turnover in the proportion mentioned would amount to a saving of \$200,000 per year. This in itself would not be a very large

profit on the business which a shop of that size should do, but as an addition to its regular profit it would be well worth considering.

2. In times of great business activity when profits are large, the turnover will greatly increase; for the different shops will bid against one another for help, each manufacturer apparently being afraid that the opportunity for profit will pass before he can get his share. On the other hand, in time of depression, low labor turnovers may be expected; for men do not so readily leave a job when they are not sure that they can get another. Thus, while an annual turnover of 200 per cent. might not be considered abnormal in times of great business activity, a turnover of 100 per cent. in dull times might be considered an indication calling for careful investigation.

3. **Computation of Labor Turnover.**—There are three principal methods of figuring labor turnover, and there are a number of minor variations. The only purpose of computing turnover is for comparison with past records and with those of other shops and offices. The different methods give different results, and for this reason there is an advantage in coming to some agreement as to what method shall be used.

The percentage of turnover is in all cases the ratio between the average working force and the number of changes in the personnel during a year's time. The determination of what constitutes the number of changes is the principal cause of disagreement in the results of the different methods. Some computers consider the number of changes to be the number of persons leaving the firm's employ. Some prefer to use for calculations the number of new employes taken on, and others prefer to use the number of replacements. Those who use the number leaving say that it is the proper method, because all the efforts of the employment department are centered on getting the kind of employes that will stay and then making it wise for them to stay, and that, therefore, every man who leaves, whether he is discharged or leaves on his own account,

is to the discredit of the employment department. Those who use the number of men hired favor that method because, they say, the cost of getting these men is a part of the cost of running the department, and the cost of training them is a charge against the employment department. Those who say that the number of replacements should be used as a basis of calculation agree with those who use the number of men hired, but add the proviso that only those men should be figured into the labor turnover who are hired to replace men leaving. For example, if the shop is growing in size, they do not feel that it is fair to have the labor turnover increased and for the employment department to accept a charge against its efficiency, when the change is caused by the growth of the company's business.

In a case of a growing organization, the results of figuring the turnover by each of the three methods mentioned are shown in the following calculations in which it is assumed that there are 1,000 men on the pay roll at the beginning of the year, 1,500 are hired during the year, 1,000 leave, and 1,500 are on the pay roll at the end of the year, the average force being 1,250.

By the first method, the percentage of turnover would be:

$$\begin{array}{rcl} \text{Men hired} & \frac{1,500}{1,250} & = 120 \text{ per cent.} \\ \text{Average force} & & \end{array}$$

By the second method,

$$\begin{array}{rcl} \text{Men leaving} & \frac{1,000}{1,250} & = 80 \text{ per cent.} \\ \text{Average force} & & \end{array}$$

By the third method,

$$\begin{array}{rcl} \text{Men hired to replace others} & \frac{1,000}{1,250} & = 80 \text{ per cent.} \\ \text{Average force} & & \end{array}$$

Now suppose that business is depressed so that it is necessary to reduce the force the next year, and that there are 1,500 men at the beginning, 1,000 are hired, and 1,500 are lost or dropped, leaving 1,000 at the end of the year. Then, calculated by the different methods, the percentages of turnover would be:

By the first method,

$$\begin{array}{rcl} \text{Men hired} & 1,000 & \\ \text{Average force} & 1,250 & = 80 \text{ per cent.} \end{array}$$

By the second method,

$$\begin{array}{rcl} \text{Men leaving} & 1,500 & \\ \text{Average force} & 1,250 & = 120 \text{ per cent.} \end{array}$$

By the third method,

$$\begin{array}{rcl} \text{Men hired to replace others} & 1,000 & \\ \text{Average force} & 1,250 & = 80 \text{ per cent.} \end{array}$$

From the foregoing it will be seen that the first two methods give opposite results under changed conditions, but that the results of the last method are alike for equal changes, whether the change is an increase or a decrease. From this, the last method seems to be much the fairer to the employment department, whose work is judged by the rapidity of turnover shown by its figures. Moreover, the method seems the fairest to the shop, as it is by no means the fault and not always to the credit of the shop that business falls off or picks up. However, labor turnover figures are for a guide and a warning only.

Whenever business is going down in general, the labor turnover necessarily decreases so far as the number of men leaving of their own accord is concerned and increases in the number of men discharged or, to use the common fiction, laid off. When business is on the mend in general, labor turnover mounts up, because of the rashness with which firms coming out of a depression bid for help.

Further variations in figuring turnover occur in the exceptions from the numbers in the numerators of the fractions shown in the foregoing calculations. Almost every one leaves out the number of employes dying, as being outside the power of the shop or employment office to change. Some leave out, in the case of female employes, those leaving on account of marriage, or on account of approaching childbirth. Exception is also sometimes made in the case of young people who leave because their parents are moving from the city and they are obliged to go too. Then, in some lines of business there

WHAT LANGUAGES, OTHER THAN ENGLISH, DO YOU SPEAK?
WHAT DO YOU WRITE?
WHAT PRACTICAL USE HAVE YOU MADE OF THEM IN BUSINESS?
WHAT MUSICAL INSTRUMENTS DO YOU PLAY?
WHAT PART DO YOU SING?
WHAT USE HAVE YOU MADE OF THESE TALENTS?
WHAT OTHER SOCIAL OR HELPFUL TALENTS HAVE YOU?
WHAT NEWSPAPERS DO YOU READ REGULARLY?
WHAT PERIODICALS?
WHAT ARE YOU DOING NOW FOR SELF-IMPROVEMENT THROUGH SELF-DIRECTED STUDY OR READING, LECTURES, ETC.
IF YOU HAVE EVER BEEN ENGAGED IN ANY FORM OF GAMING, PLEASE GIVE PARTICULARS. STATE WHETHER ONCE OR REPEATEDLY, AND WHEN?
IF YOU HAVE EVER HANDLED MONEY FOR YOUR EMPLOYERS, PLEASE GIVE THEIR NAMES AND THE PARTICULARS?

IF YOU HAVE EVER BEEN BONDED, PLEASE STATE FROM WHEN, TO WHEN, BY WHOM?
IN WHAT AMOUNT?
IF YOUR APPLICATION FOR A BOND HAS EVER BEEN REFUSED, PLEASE STATE BY WHAT SURETY CO.
WHEN?
AND WHY?
IF YOU HAVE EVER FAILED IN BUSINESS, MADE A COMPOSITION WITH CREDITORS, TAKEN ADVANTAGE OF THE BANKRUPTCY ACT OR THE EXEMPTION LAW, OR PLEADED THE STATUTE OF LIMITATIONS, PLEASE STATE WHEN?
AND GIVE PARTICULARS.
IF YOU HAVE EVER BOUGHT ON MARGIN STOCKS, BONDS, GRAIN OR OTHER COMMODITIES THAT ARE DEALT IN SPECULATIVELY, PLEASE STATE WHEN?
IF ONLY ONCE? OR REPEATEDLY? OR AT PRESENT?
IF EMPLOYED BY US, WOULD YOU BE ENGAGED IN ANY OTHER BUSINESS OR OCCUPATION?
HAVE YOU BEEN ASSOCIATED WITH ANY OF OUR INTERESTS BEFORE? IF SO, WHEN? FOR HOW LONG?
WHY DID YOU LEAVE?
WHERE?
IN WHAT CAPACITY?
WHY DID YOU LEAVE?
IF ANY OF YOUR RELATIVES OR FRIENDS ARE ASSOCIATED WITH US, PLEASE GIVE NAME, RELATION, ADDRESS, POSITION, OUR DEPARTMENT

INVENTORY OF EDUCATION
THE SPACE BELOW PROVIDES FOR A FULL ACCOUNT OF YOUR EDUCATIONAL TRAINING TO DATE.

Table with 18 columns: NAME OF SCHOOL OR INSTITUTION, Public or Private, High or Preparatory, Business or Trade, College or University, Name or Correspondence, ADDRESS, Attended from Date, To Date, COURSES PURSUED, Graduate, Post Graduate, Degree, Now Studying, SUBJECT, Bookkeeping, Accounting, Auditing, Manufacturing Cost, Statistics, Typing, Stenography, Shorthand, Telegraphy, Teleggraphy, Wireless, Drafting, Machines, Calculating. Rows include STUDIED, USED IN BUSINESS, GRADE ATTAINED, SHORTHAND SPEED, SYSTEM, TRANSCRIBING SPEED, COPYING SPEED, MACHINING, and a row for UNDERSCORE THOSE YOU FLUNKED IN DOUBLE UNDERSCORE TO SHOW HONORS.

INVENTORY OF EXPERIENCE
THE SPACE BELOW PROVIDES FOR A FULL ACCOUNT OF YOUR TIME AND EMPLOYMENT SINCE LEAVING SCHOOL. REGARDING YOUR OCCUPATION WHEN NOT EMPLOYED, REFER TO THOSE WHO YOU KNEW INTIMATELY AT THAT TIME. IF YOU DO NOT WANT US TO WRITE TO YOUR PRESENT EMPLOYER, BE SURE TO MARK A CROSS IN THE SPACE PROVIDED.

Table with 10 columns: From Date, To Date, NATURE OF YOUR EMPLOYMENT OR OCCUPATION, Salary, Full Name of Firm (or Personal Interests) (if not employed), LINE OF BUSINESS, ADDRESS, Still in Business, IF EMPLOYED - TO WHOM DID YOU REPORT? IF NOT EMPLOYED - NAME THOSE FAMILIAR WITH PERSONAL INTERESTS AND OCCUPATIONS, PRESENT CONNECTION OR ADDRESS, REASON FOR CHANGE (if dismissed, give reason for dismissal), May We Write?, Salary, Leaving.

is an emergency force hired for a brief period only, as in a department store around Christmas, and in hat shops near

Day _____
Night _____ 192 _____

TURNOVER BY CLASS OF WORK AND CAUSE

Cause of Leaving		Class of Work					Length of Service					Sex		Color		Totals	Percent of Turnover Due to each Cause
		Unskilled	Semi-Skilled	Skilled	Foremen and Assistant Foremen	Shop Clerical	Less than One Month	Over One Month and Less than Six Months	Over Six Months and Less than One Year	Over One Year and Less than Five Years	Over Five Years	Male	Female	White	Colored		
Discharged	Careless, Unreliable, Lazy																
	Incompetent																
	Insubordinate																
	Quarrelsome																
	Irregular Attendant																
	Miscellaneous																
	Total Discharged																
Laid Off	Physical Reasons																
	To Decrease Force																
	Total Lay Off																
Voluntary	Pay (More Money etc.)																
	Work Conditions <i>Dusty Dirty</i>																
	Lives too Far, etc.																
	Account Night Work																
	Poor Health																
	Unknown																
	Miscellaneous																
	Total Voluntary																
Died																	
Total Exits																	100
Average Working Force																	X
Turnover																	X
New Employees: Men - _____ Women - _____																	
Remarks _____																	

FIG. 2

the close of the season's work. It seems reasonable to consider that when any one hired for a definite period fills out that time the employment department has a perfect record

in respect to that case. Certainly the employment department should not be charged up with inefficiency because the period for which the help is wanted is less than a year. In general, when figuring employment-department efficiency, it seems right to leave out of account all cases in which no effort of the employment department could have kept the man who leaves. To be sure, when employes die or their parents move away, their successors have to be trained for the job, but such employes are in the same class as those who are hired and trained for the work they are to do because of the growth of the firm's business. A form of record showing daily and monthly labor turnover and the causes is shown in Fig. 1. A form of summary of turnover records is shown in Fig. 2.

METHODS OF REDUCING LABOR TURNOVER

4. Desirable Rate of Turnover.—It should always be borne in mind that it is possible to reduce labor turnover to too low a rate for the good of the shop. A very low rate is likely to mean that the average age of the employes is too great, as men lose their desire to go from place to place as they grow older. It may also mean that not enough production is called for, that the foremen are too easy with the men, that discipline is not maintained, or that higher wages are paid than circumstances justify; all these things are possible and costly. However, very few shops have to consider turnover from this point of view, as almost all of them suffer, whether business is good or bad, from an unnecessarily high turnover.

It should also be borne in mind that the employment department by its own efforts is seldom in a position actually to reduce labor turnover, and that, as it is usually an advisory department, a part of the staff rather than the line in the organization, it can only present reasons why things should be so changed as to make the needed reduction. It is also safe to assume that no one thing will cut down the turnover to any great extent. There is no panacea, and there appears to be no way to predict absolutely what will be most effective

in a given case. Among the many things that have been tried with varying degrees of success under different conditions are combinations of employers, various forms of welfare work, and education.

COMBINATIONS OF EMPLOYERS

5. Methods and Difficulties.—One of the favorite means which has been tried for reducing labor turnover, especially in moderate-size cities, is a combination of employers. Such a combination is an association of employers who are willing to pledge themselves that they will not hire one another's men without the permission of the former employer. Practically such a condition pertains in the government service, where there is a rule that no one can change from one department to another except at the same salary, and that any one who changes is not eligible for an increase in salary for 6 months after the change.

There are two things that make it almost impossible to maintain such an agreement under ordinary business conditions. One is, that in times of scarcity every member suspects that the others will take some chances to get help. He therefore believes that, the action of none of them being entirely defensible, no one will dare to take action against another who interprets the agreement liberally to suit his own needs. Consequently, when one employer finds it necessary to recruit, he takes whatever men apply and say that they will not again work for the other member, whose shop they were in up to that day. The other thing that makes it impossible to carry out the agreement between the members is that it gives so great power to an unscrupulous foreman, that abuses are likely to turn every one against it. For example, if a man is hired in one shop under an agreement that if at a given time he is worth more money it will be given him, and he is passed over at that time and given no satisfaction, he should have a right to go out and get a job wherever he can. If his foreman tries to prevent his getting this job elsewhere, then the system is being flagrantly abused and almost every one except the prejudiced foreman will see it in that

light. As a matter of fair play, it seems that it should not be necessary for him to have the approval of his present boss before getting a new job. Most foremen are entirely human, and they will find ways to show that a desirable man is only desirable for the job with which he is occupied.

6. A more legitimate combination of employers is one that sets standard rates for certain classes of labor, as, for example, a uniform rate per day for men who shovel coal over the sides of gondola cars, a given piece rate for knitters of men's socks, or similar definite jobs. Such rate setting is done successfully inside the shop, in fact it is one of the first jobs of the employment department to call attention to discrepancies in rates of pay in different departments. But, where different firms are concerned, such arrangements are very difficult to keep going after they are started, for reasons similar to those that apply to the form of employers' combination already described. Firms will enter the agreement and then after a little time promote new employes and raise their wages so soon as practically to violate the spirit of the agreement. An illustration of such a situation was presented by the operation of the Shipping Board during the World War. In some shipyards laborers received one rate and helpers to other mechanics a higher one, and many yards took advantage of the opportunity to rate most of their laborers as helpers, thereby obtaining an advantage over the firms that followed the spirit of their instructions.

7. The only circumstances under which combinations of employers are likely to be successful are in small communities in which all the shops that compete for labor put their employment work in the hands of a community employment department, and standardize their requirements exactly as is done within a single establishment. From the ethical standpoint, no objection to this form of organization can be made except when it is used to prevent earned increases in wages or promotion. Unfortunately the same jealousies and selfishness crop out in all these associations as in single shops, and are less likely to be controlled. Inside one shop, there is the pos-

sibility that the superintendent will take hold of a case where one foreman refuses to allow one of his subordinates to be promoted to a better job in another department, and will make the promotion. In an association of shops this is not possible, and superintendents will accuse one another of stealing help if overtures are made to any one to move from one shop to another; in other words, there is great danger that the growth and prosperity of a small community may be jeopardized by the selfishness of one superintendent, unless all the others take a broad view of the situation and insist on enough circulation of men from shop to shop so that stagnation will not set in. The moment a man comes to feel that he is helpless and that he cannot move to another shop without the permission of his own foreman he feels a resentment against the town for making such a condition possible. The only ethical and profitable combination employment department is one that shows sufficient self-restraint to give employes large choice as to working places. The preferences of the employes will show plainly their opinions of the different firms, for there will invariably be one shop in any town which is considered the best place to work in by the majority of the workmen and another that is considered the least desirable, with the rest rated in between.

If wages are alike for the same work in all the shops, the best workmen will gradually drift to the best shop and the worst to the worst shop; for then the non-financial rewards begin to be felt most strongly. The effect of this is still further to standardize working conditions, as the poorer shops will find that they do not attract the men they need, and will attempt to bring up their conditions so as to get them. If this results in such conditions that the men who leave town to get other jobs come back and declare that there is no better place to work in, then the result of the combination is justified. If, on the other hand, the result is that the best workers go from town and never return except to take others away with them, then the combination is deservedly a failure.

WELFARE WORK

8. Nature and Purpose of Welfare Work.—In shops where the labor turnover is thought to be too high, an effort to reduce it is often made by resorting to so-called *welfare work*. This term has come to have a meaning much broader than it should. Its real meaning is work done to direct employes to a better use of the money which they earn, toward thrift, cleanliness, and good home life; in fact, an attempt to get workmen to enjoy the things which generations of restraint have made enjoyable to the so-called higher circles of society. The object is entirely commendable, but the way the work has been done makes it very difficult to do the legitimate things which might come under this head. The great difficulty is to eliminate paternalism; and the greatest difficulty in doing that is to get people who are paternal to realize what they are doing.

Paternalism may have a great range of meaning. It simply means *fatherly control*, and there are many types of fathers, but in general it conveys the idea of a father who retains his legal control over his children and acts the part of a benevolent despot. There are a great many people who like to be treated in just that way, but it is not a wise father who retains this control and who thinks for his children up to the day they are of age. Their own self-control and initiative need encouragement and development, which they do not get unless paternalism is exercised with good judgment. The situation in a shop may be very similar to that in Cuba, where the United States government began in a very paternal manner but gradually relinquished control of the native government until finally it was possible to let go altogether. So, in the shop, paternalism is justified only as it is helping people to get along without it.

It is very difficult for a man who has the money-making instinct to sit still and see other persons fail to be thrifty. He feels that it is part of his duty to reform them. By *reform* he means, of course, making them like himself. They may envy him his wealth, and yet down in their hearts they may

despise him for the way in which he has accumulated it. By his very position, he is unable to get their attention to his ways of becoming wealthy. On the other hand, a great deal of what is done under the name of welfare work is acceptable to employes under some other name, and under leadership rather than compulsion. The old saying that you can lead a horse to water but you cannot make him drink applies doubly to men. If they see one of their number prosper and show signs of it, they are quick to try the same thing, whether it be a get-rich-quick scheme or something legitimate; but let the owner of the shop propose that they invest in the company's stock and he will find that they suspect all sorts of schemes on his part, from a plan for getting their hard-earned savings away from them to a scheme for getting them tied up to the shop so that they cannot afford to take any other job. So, first of all, it may be said that the general manager or any of the higher officials are, by their position, debarred from taking a successful part in legitimate welfare work.

Some plans for welfare work that have been tried with varying degrees of success are described in the following pages.

9. Mutual Benefit Associations.—Probably mutual benefit associations have the highest percentage of success of any of the activities that come under the head of welfare work. They are very much alike in their methods, the variations appearing to be immaterial. From study of many of them, it appears that the elements in common which seem to lead to success are: (a) Control by employes; (b) small frequent payments; (c) moderate benefits; (d) payments large enough to allow occasional dividends and to render extra assessments unnecessary; (e) limited social activity.

10. Control and management by employes seems to be the most important essential. To be sure, many of the most successful associations elect the cashier of the company to be their treasurer, but they put him under bonds to them for this work, just as he is under bonds to the company for its work, and then, too, he is an employe and eligible to member-

ship. Most companies allow the elected officials of the association to spend a reasonable amount of time during working hours in collecting dues and making disbursements. Some companies go so far as to collect the dues by taking them out of the pay envelope, but this is not always found best. As soon as a man finds something taken out of his pay envelope he gets to think of his pay as what he finds in the envelope and to forget that what is taken out ever was his. Consequently, he gets to thinking in a perfunctory way about the association, and soon loses interest and allows it to be run by whatever clique may happen to have control at the time. Cliques kill any such organization without fail. It is much better for the company to allow the official of the association time enough to collect the dues whenever they fall due than to collect them from the pay envelopes. When a man receives his money in full and then pays out even a little of it under agreement, he realizes plainly that it is for something in which he has an interest and in which he may take a hand.

It is found very helpful not merely to have employe control, but to provide in the constitution that employe control shall rotate; that is, that all the officials shall hold office only for one or two terms, enough staying in office to pass along the necessary traditions to the next comers. The exception to this rule is the treasurer, who is likely to be a steady incumbent. Inasmuch as his functions are usually purely to guard the funds and distribute them as directed, this is a reasonable plan.

11. Frequent payments are desirable in order that they may not be easily forgotten. Some will want to pay up a year ahead, some may offer a 5-year payment, but the great number should pay at least as often as once a month, and in some ways it is better that they should pay as often as the pay day comes around. There will be a temptation to make the pay clerk the collector for the association and to have him collect as he pays, but this slows down the paying off of the help too much, besides not letting the employe have the money long enough to realize that he has had it.

12. About half the successful associations collect 25 cents per member once a month (pre-World-War rates). This rate allows payments of about five or six dollars a week during illness and a death benefit of \$100; and, if the business of the association is well cared for and no epidemics occur, it will allow a slight accumulation of surplus, or an occasional dividend back to the employees. Payment of dividend only to those who have been members for some certain length of time, or adjustment of the dividend according to the length of time each member has been contributing is advisable, as a dividend to all present members alike is not altogether fair to the older members who have really made the dividend possible. It is undoubtedly wise to pay occasional dividends if possible, and actually to *pay* them, not by remission of a month's dues, but by payment in cash from the treasury.

While war prices were in force, the rates and benefits were in many cases doubled and the dividends also increased. The increase of dividends was partly due to increased labor turnover, for a high rate of labor turnover adds something to the surplus, as no provision is usually made for refunding any money once paid into the treasury, and consequently a greater number of members forfeit membership by leaving during times of business prosperity. Some associations permit employees who leave the shop to retain their membership so long as they send their dues without having to be asked for them. This privilege, however, can hardly affect the total collections very much, as only a few persons remember to keep up payments after they begin to make friends in the new shop.

13. Most organizations have a proviso that the total payments made to any member shall not, when added to all that other organizations contribute, amount to as much as his regular income. This is to prevent malingering; but it is not always enforceable, as men do not always let all of their affiliations be known. Under workmen's compensation laws, certain sums are paid in case of accident, and the association will be called upon to make its usual payments. If, then,

the total the man receives slightly exceeds his usual income, a certain leeway for actual loss to the family may well be allowed, as a man's wages are by no means all that he contributes to his family's comfort. He undoubtedly does much around the house that will have to be paid for if he is not able to do it himself; there will at least be walks to shovel and ashes to take out, and little odd jobs around the house which cost a great deal of money to have a plumber or tinsmith come and do. Then there are almost always doctors' bills, extra expensive foods and medicines, which are not always covered by the compensation laws.

14. The death benefits of employes' benefit associations are very seldom intended to amount to more than enough to pay funeral expenses. This may seem like very little to those who carry their insurance by the tens and hundreds of thousands, but to a workman's family it is worth a great deal not to have this additional burden just at a time when the world looks darkest.

Often mutual benefit associations, acting under suggestion from some member of the firm, have increased the dues and the death benefit, or they have made two or more classes of members and benefits, but the associations with moderate dues and corresponding death benefits have been the most prosperous. The reason for this probably lies in the fact that life insurance, in any but very small amounts, does not sell itself. It is seldom that a man contemplates seriously the prospect of his own death. He may see his fellows succumbing to disease, but he thinks that it will not touch him, or that if it does it will not harm him. It is fortunate that we have this happy disposition, as otherwise we would not likely have so low a death rate as we do; but it makes the selling of life insurance an art that is not possessed by mechanics and factory workers in general. Moreover, much more time will be required to sell thousand-dollar policies, for example, than most firms could allow their employes to take. At pre-World-War rates, \$100 to \$150 death benefits seemed to be about the limit for successful

operation; these amounts were successfully doubled during the war, but they will probably have to be approached again as conditions change.

15. The statement that only a limited amount of social activity is desirable in connection with a mutual benefit association may seem at first sight to require explanation, but experience has shown it to be true. People who work in the same shop necessarily see a great deal of one another, perhaps more than is good for them, during working hours, at noon, and going to and from work. Their homes often are widely scattered, and any attempt to bring them together in a social way, in the evening or Saturday afternoon, or on a holiday, finds them more anxious to have the time to spend with friends whom they cannot meet every day, and whose peculiarities have not sufficient opportunity to jar on them to such an extent as to make the meeting unpleasant. Those who are brought out by mutual benefit socials or shop socials are of two types; one, those that do not get such invitations from any other source, who are hungry for social meetings, but do not know how to enjoy them because they do not know how to entertain or give pleasure to others. The other class is composed of those who go to everything, even if they have to take in two entertainments in the same evening. They take great enjoyment in these meetings, but do not contribute much to their success.

The exception to the rule limiting the social activities of welfare organizations, is when the employes of a shop by themselves constitute a whole town or village of enough size to justify socials among neighbors who live near one another and in a place where moving pictures do not form a serious competition. In such a community, every one plans for, and looks forward to the next dance or entertainment, and every one goes that possibly can, and the whole effect is good, except for the slight loss in production for the few days before each party. The good which is done to the morale of the whole body of employes is usually worth a great deal more than this loss, however.

16. What part in these entertainments the officials of the company should take is a much discussed question, at least among employes who cannot possibly influence it. There is always the danger that the officials will put something of a damper on the proceedings. People who are not well versed in all the rules of polite society can get a great deal of enjoyment out of life, nevertheless; in fact, it is likely that they get more because of their very lack of knowledge of conventionalities. If the officials are society people, their attendance at these functions is a decided drawback, unless they are able to forget their positions. If, however, they really rose from the ranks, and especially if their wives did also, then there is not much danger but that they will be glad to leave their dress suits and their dress-suit manners at home for an evening and come out for real enjoyment; but if they have not come from the ranks they do not accomplish much by appearing before the workmen in their stiff and restrained manner.

17. Group Insurance.—It is almost inevitable that the rate of labor turnover will be less among the members of a mutual benefit association than in the rest of the shop force. This is not altogether because of the association, but more likely because those to whom such an association appeals are the type of people that stop and think before they leave a shop. Whatever the reason, the fact remains that labor turnover is less in this class of employes than in others, and because of this the management may very likely determine to try one stage more of progress by taking out a blanket policy of insurance on the whole shop force. The reasons for this appear to be as follows:

(a) If a small amount of insurance is good, more will be better. (b) Insurance costs less at wholesale than at retail. (c) Insurance companies, knowing their business as they do, must be safer and more dependable than amateur associations. (d) The company can put in its credit, and some money, and thereby give each employe an insurance policy at a very liberal rate, thereby doing good for the workmen and gaining credit for itself.

18. There is little doubt that if a small amount of insurance is good more will be better, and that most workmen carry altogether less insurance on their lives than they are worth to their families. A workman who averages to bring home \$1,000 a year through his life is nearly as good, from a purely financial standpoint, as an investment of \$20,000 at normal rates. Moreover, he has a sporting chance of some day being worth much more than the thousand dollars a year. If he invests this money in bringing up a family of children, he may be looked on by his employer as a thriftless chap with no ability to save his money, whereas these children may in 20 or 25 years prove to be worth a great deal more than any life insurance that he could possibly buy. The old and much maligned term policies were not a bad thing for men who were spending all they could get together in bringing up and educating their children. The rates were low and the policy gave the mother assurance of some money to carry her along while the children were little and not able to aid in supporting the family.

19. The second assumption, that insurance costs less at wholesale than at retail, is also true, if limited to the cost of insurance; if it takes in the cost of selling the insurance the statement may not be true. Very large policies may not cost a great deal to sell, but policies moderately large as compared with the insured's income do require a great deal of labor and watchfulness to keep them in effect. The mere fact that a firm makes each employe a present of an insurance policy does not mean that the policies will be kept up. To be sure, if the employe is willing, the paymaster may take out the premium each week or each month, and the policy may be continued in that way; but labor turnover comes into play again, and each man who leaves the shop may reasonably be expected to give up his policy.

In the case of the mutual benefit association, the amount paid in is so small that no one ever suggests getting his money back; but if the corporation is handling the insurance the chances are very strong that some one will put the matter up

to the management and they will be practically forced to make some restitution. Such a condition is in many cases provided for in advance by giving each man an opportunity to carry on such part of his insurance with the covering company as his premiums have so far paid for, or, by increasing his premiums, to carry as much insurance as before. Most such policies are, however, issued without physical examination by the issuing company. If the employer has a medical staff and a system of physical examinations, then the policy may be issued on a basis of the excellence of this examination and on its frequency; but the greatest value is in the fact that such a company examination makes certain that men will not be placed on jobs that will aggravate their ailments if they have any.

It is doubtful if there is any very special drawing power in insurance, whether of the professional group type or of the more amateur association type. On the other hand, the effort toward promoting such insurance is very likely rather to be resented as being too paternal. If the insurance were made optional and only sold to those who want it, then all the expenses of sale would have to be borne and the cost of insurance would be very little less than if separate policies were sold. More than that, it would be necessary to allow the insurance company's agents access to the employes during working hours. Also, not every employe cares to have the company for which he is working select the insurance company in which he shall insure. His wife may not like the calendar that they sent out last year or the man may have heard some rumor to the effect that the insurance company did not allow the full claim for some one who died, who, through no fault of the beneficiary, had failed to live up to the letter of the policy. The fact that the employer pays some part of the premium himself has very little effect on his employes. They usually feel that they would rather have the money and freedom to spend it as they please.

All in all, it seems very doubtful if group insurance, good as it is, has any decided influence in making any given job any more attractive to employes.

SENIORITY SYSTEM OF PROMOTION

20. Job Insurance.—A definite line of promotion and seniority rights is a favorite method for promoting low labor turnover, especially among railroads and other public service corporations. This system presupposes fitness, or rather it demands fitness, for the rule is inexorable. If a man cannot do the job to which his seniority entitles him, he is automatically shunted, either out of the service altogether or into some place off from the main channel of promotion and where promotion is not considered. The system proves to be very effective, especially where provision is made so that men can obtain what practically amounts to a leave of absence without loss of seniority. This leave is sometimes as long as 6 months. If a man sees a job that he thinks is better in some other line, he can go and try it for that length of time, then, if he discovers that the old job was best, he can go back with his rights of promotion unimpaired. This rather loose string on a man is a very fortunate provision, because the seniority thus becomes a privilege instead of a penalty. Men can go out and try their hand at something else and not have demotion in order to get back in as is the case in so many industrial corporations. The system is not, however, adaptable to all organizations, because some have so many parallel lines of progress that no one knows whether he is being promoted or demoted. For example, in the manufacture of wire and wire specialties, no one can be sure whether a transfer to or from the black-wire work to galvanized or to cold-drawn work is a promotion or not, except as it is revealed in the pay envelope. Even then, there may be no other basis for the variation in rates except precedent.

Instances have been known where a foreman discovered that workmen under him were getting more pay than he was, and where an assistant foreman was on a higher salary than the foreman. Such things are discovered and become common knowledge in the shop before the management has any suspicion that they have leaked out, and they produce an impression directly contrary to that made by the seniority

rating. The cure for this trouble is simply common ordinary honesty. No management that gives a subordinate higher pay than his superior does it with any thought of being dishonest in the narrow sense of the word. They usually feel that they have been held up and forced to pay the larger amount, not because the man was worth it, but because some competitor, ignorant of what the rate should be, attempted to hire the man away from them. However, it is doubtful if it very often happens that a firm pays a larger salary than they believe is earned for any considerable length of time.

In view of the success of the railroad plan of seniority, it seems as though steps to map out lines of progress so they will be apparent to workmen would be a great advantage to any shop. Unless a man has something to look forward to, he becomes an old man in the company long before he should. If he knows what the next step in his progress should be, he has no excuse for not fitting himself for it.

21. There are two flaws in the seniority system, however, which should not be overlooked. One is the damper which it puts on the highly intelligent man who might, on a purely merit system, rise much more rapidly than he can go with the current. He feels that waiting for dead men's shoes is too slow for him, and he gets out and goes elsewhere. The consequences of such action are not all bad, however. It results in a force the higher men in which matured late in life, and are thereby likely to retain their efficiency longer. Consequently, among them are found many men who are well past middle life and yet able to hold their own and more with other business men. Then, too, the seniority system makes for thoroughness. Under the merit system of promotion a young man of promise is likely to be pushed ahead so fast that he has anything but a thorough knowledge of what he has been over and through. Many firms that might have used a little more of the seniority method to advantage, appear to be suffering from this mania for new blood.

The other objection to the seniority rule is that it puts so great a premium on staying with the organization that men

are more inclined to hang together to get their wage increases and other advantages than they are in a shop where there is a more active flow of men. This is equally true whatever the means of reducing labor turnover. The more desirable the shop as a place to work in, the greater the tendency to unionize from within. If this tendency is confined to the shop itself it is not a bad idea, in fact it is being cultivated in the form of shop committees, etc., by many large and prosperous firms with a considerable promise of success. It has been said that a strike is a compliment to the firm as indicating that the workmen prefer to hang together and lose some time from work rather than give up their jobs individually and secure others.

HOURS OF LABOR

22. Length of Working Day.—So much has been said about the 8-hour day, that it appears to the public mind to have an importance that it does not possess in the minds of workmen. Length of hours is of importance in two principal directions; the first, as to the fatigue from which a man will recover over night; the other, the demands of his social circle.

23. Fatigue.—Fatigue may be either mental or physical, or both. We usually think of physical fatigue only, when considering shop conditions, but there are a great many shop jobs that require as high an order of intelligent concentration and mental effort as any in the office. Physical exertion does of course use up energy. If it uses up more energy than food and sleep replace, then the man is wasting himself just as surely as if he were throwing away the money he receives. This is not merely his loss or that of his family. It is a loss to the firm for which he works, for it inevitably shortens his working life. Fatigue is not altogether a matter of the amount of work that the firm sets for a man to do, as the firm has no control of the food with which the waste is to be replaced, neither can it control his digestive apparatus, nor regulate the sleep that he shall take. A great deal has been done by

newspaper and magazine articles to promote good health, but much of this work has been undone by the ability which large wages have given for men to eat expensive and indigestible dishes, and expensive habits of the palate are not easily overcome.

In one way, a large amount of hard manual labor may have a less unfavorable effect than a moderate amount; because, when a man gets home at night tired through and through, he gets to bed and to sleep before the half-tired man has made up his mind just how to while away the evening. In fact, the man most likely to suffer from fatigue is the one who has never done work enough to cause real fatigue, and whose muscles are soft and flabby from disuse, but who is suddenly called on to help at some heavy work. Soldiers returned from the World War showed a curious illustration of fatigue. While they were in camp or overseas they were on a stated ration, they had regular hours and a great amount of hard work at certain times and nothing at all to do at other times. When, however, they came to live in their old way with their families, they gave up their fresh air and their stated ration, but they retained their proclivity for jumping from one thing to another. That is they had great difficulty in settling down to steady work at any one thing.

24. Where great fatigue is experienced, and especially where the fatigue is mental, rest periods at somewhat frequent intervals have been found advisable. The length and frequency of rest periods for some forms of laborious work, like handling pig iron or shoveling coal, were very carefully worked out by Taylor; but his results would be helpful in other cases only in a general way. There is no stated period of working and of rest that is best for any two men, or best for the same man any two days; for the man's mental attitude has so much effect on his feelings that his temperament is often of more importance than his physical condition. A study of the nervous system shows that fatigue is simply a nervous condition that warns a person of his approaching physical condition. If his nerves are overwrought and tired,

he feels the warning before he is physically tired at all; and yet the warning is just as real to him as though he were doing something arduous. On the other extreme, in a football game, for example, the same man might fail to notice these warnings from his nerves because they were too busy conveying his instructions to his muscles to send any messages back. He might, therefore, by not heeding these warnings, fail to take rest when he should, and thus work himself permanent injury.

Mental fatigue should never be allowed to become acute. Every man has a limit to the overload which he can carry, and once he has approached that limit and knows where it is, he should keep away from it. We are said to be a nation of neurasthenics, and the accusation is more likely to be increasingly applicable than not. Our tendency to flock to the cities, and to so accustom ourselves to noise and confusion that we cannot sleep in the country because the quiet hurts us, is all wrong from a purely psychological point of view. We undoubtedly shall have to go all the way through with this experience before we realize that life is worth living without getting into our own hands every last penny that we can scrape together; but so long as we estimate all values in dollars and cents we are probably doomed to neurasthenia. This malady is not, however, especially helped by rest periods. It needs merely a slowing down of all nerve-racking work and an improvement of annoying surroundings. Moreover, a great part of the things that produce nervousness are not within the control of the employer; for it is difficult to locate any but the largest plants at a distance from a large city, because the very people who suffer from overwrought nerves insist on being where the conditions tend to make them more nervous.

25. Another plan, which has the advantages of a rest period and appeals better to the office force, is a general airing of the rooms accompanied by mild calisthenics. This plan is often installed, is liked by nearly every one, but soon is forgotten and dropped. The only way it can be kept up is

to order an absolutely callous janitor to go the rounds of the office at a certain hour and open every window wide and see that they are not closed for a certain length of time. Then the exercise becomes necessary as a preventive of colds.

26. A great many jobs furnish their own rest periods, in fact there are not many that do not. A drop forger with a helper to see that new pieces are put in the forge can work continuously if he wishes, and his work is certainly laborious enough. He also has the disadvantage that if he stops to rest he is likely to catch cold. The old-time blacksmith, of whom a few still persist, had plenty of opportunity to rest; because while he was pumping his bellows he used another set of muscles than those he used when hammering iron. The jobs that do not of themselves allow rest are so few in number that each one may have special study to determine just what should be done for it. Sometimes the difficulty can be solved by a double gang alternating in two- or four-hour shifts, other cases require a somewhat shortened day, and still others simply need better selection of men who are willing to take the necessary time to sleep at night to recuperate for the next day.

27. Social Demands Affecting Hours of Labor. Every married man owes something to his family besides the cash which he brings home on pay day. If he simply treats home as a place to sleep and get two meals, he does not deserve a family. The employer who makes his hours so long as to require such a way of living is not contributing as he should to the future welfare of the nation. To be sure, there are always men who are willing to take what are practically watchman's jobs of 12 hours a day for 7 days a week. They are men who need the money, who have no trade either because they are not capable of learning one or have not the necessary ambition. Sometimes they are men with families which they desire to see as little as possible, but that is very much the exception.

When the 8-hour day came, many shops still operated 10 hours a day but offered time and a half for the ninth and

tenth hours. Employes in accepting this offer, actually worked 10 hours instead of 8, but received pay for 11 hours; this, to many, seemed like getting something for nothing.

Naturally in the course of time the effect of demand and supply determines the hours of labor within the limitations of men's strength, and so as to allow the workman a reasonable time for the social side of his life. When there is a great deal of work available and the rates are necessarily high, some men will work long hours, even if it is necessary to take two jobs, one in the daytime for one firm, the other at night for another; but in times of slack work the general run of employes are reconciled to dividing what work there is between the men who most need it for their families, consequently still shorter hours become inevitable. Experience shows, however, that nearly all men are more concerned about the number of days which they work each week than about the number of hours each day. If a shop must run only half time, nearly every one will agree to work only 3 days a week where no one would like to work every morning or especially every afternoon. Again, if the number of hours per day is decreased, there is almost always a movement to try to get Saturday wholly clear in order to make a much longer week end. This is of a great deal more consequence to married men than a corresponding shortening of each week day. Even with daylight saving in force, the length of time men have to themselves is not sufficient for them to do much gardening unless the gardens are very near both work and home. Where such is the case, a great deal can be accomplished, but where workmen are commuters, as so many are in large centers, gardening must be done Saturday afternoons and Sundays. The commuter does not get home until the middle of the afternoon Saturday, whereas if he had all day Saturday he could begin work early in the morning and have his Sunday for rest and recreation.

28. There appears to be no very good reason why different hours should not prevail in different parts of an establishment, according to the nature of the work. In some fac-

tories where the day's work is limited by the equipment, as in the manufacture of rubber shoes, all the employes begin work at the same time in the morning, but they go out at various times during the afternoon as their allowance of work is completed. If a workman wishes half the afternoon off, all he has to do is to keep his mind on the job, and if he can do the work well and also rapidly he may be out in the early hours, while any one who finds it easier to work slowly and methodically can take the whole day for the same job.

In some instances it may be necessary that the work be carried on continuously, in which case there is the choice of three gangs working 8 hours each, or one gang working 10 hours and a night gang working the other 14. If the night gang is made up of single men, as it should be, it is often more satisfactory to divide the work in this latter fashion. Then the day gang gets the same hours as are common in other shops, and the night gang, which is debarred from all ordinary social activities by virtue of being a night gang, has long hours and correspondingly large pay. A night gang made up this way necessarily has a large labor turnover, but the total turnover for the 24 hours a day will almost certainly be less with this long night shift than it will with three gangs, or with two gangs of 12 hours each, or with two gangs alternating day and night.

This latter plan is often tried in order to start a night gang. The original day gang is split into two parts and the men draw lots as to which gang shall take the first week of night shift. The losers are promised that they will have the day shift in one or two weeks, as the case may be, so that they will only have a short time of discomfort. Then each gang breaks in enough green men to make up their numbers. It soon appears that the men who have once been on the day shift feel that they should continue. They find that it takes them at least 2 weeks to get accustomed to sleeping in the daytime, then they go back on the day shift and it takes them a few days to get accustomed to sleeping at night. The result is that they have about 4 or 5 comfortable days and nights each month. They become sore and disgruntled and leave rapidly

or as soon as they can get another job, and the labor turnover is high, as is also the cost of breaking in new men. In any large city when things are prosperous, there is always a large contingent of night workers in every employment office on Mondays trying to get day jobs rather than go back to work Monday night again. On the other hand, a continuous night gang will have a large labor turnover, but not so large as that which results from alternating the gangs day and night.

29. In conclusion, it is safe to say that there is no great pressure from workmen themselves for a shorter day than 10 hours; that their preference is for reduction of the hours per week rather than per day, and that they would like to get Saturdays clear, if the hours are brought to 50 a week or less. Further, it seems that special hours for special work are feasible; and that the three 8-hour shifts are not desired by the workmen, for even under war stress it was very difficult to fill the 11 P. M. to 7 A. M. shift except by cleaners and repair men at exorbitant rates; and that different hours may be used for different gangs and different individuals without trouble, provided possibly that it is understood that requests for shifts from a gang working for one length of time to another gang working another will be given careful consideration.

HELPING EMPLOYEES IN THEIR HOMES

30. Purpose and Methods.—Frequent attempts have been made by employers to help their workmen in their homes. Such action may easily be overdone, and it has often been very badly overdone so that it resulted in harm rather than good. In its mildest and most successful form such help consists in having a follow-up man visit the homes of men who are reported as being out sick, to inquire after the patient. If this man is tactful, and if he is given to understand that his value to the company will not be rated on the number of calls he makes, he may be able to make himself a most profitable addition to the force. In some shops, names of men who are absent and reported to be ill, either by fellow workers or

by their relatives or themselves, are given to the follow-up man each day and he visits them so far as possible and as soon as possible. If he drives up to the house in an expensive car with the name of the company plainly in sight, he will find out very little. If he comes on foot or in a rather dilapidated car of some make that is seen every day, he will probably get all the information that he wishes, except in those cases where a man has gone to another job and has sent word to the old shop that he is sick, so that he will not have to throw up the old job before finding out if he likes the new one.

A great many such men, and men who are staying out because they expect to be discharged if they go back, can be saved to a company by a good follow-up man. If, however, he carries his inquiries too far, if he looks into the diet on which the family is subsisting, and tries to give advice, or if he in any way steps over the line which marks the company's evident interest in the man, his work will soon become worthless. The man to do this work should be at least middle aged, preferably a man who has met a great many people and who is not shocked by things that are not entirely within the moral code prescribed by the Puritans. Ex-bartenders are said to make excellent men for this work. They are not easily deceived into mistaking sickness for drunkenness. Moreover, they have seen the seamy side of life and enough real examples of homes ruined by drink and jealousies so that they know what to say to a man who thinks he is out of luck.

31. The next stage in home follow-up is the employment of a visiting nurse, who may be either a woman or a man. If this nurse goes only to homes where the follow-up man has found actual sickness, and especially if she can go with the sanction or at the request of the mutual benefit association, then she can do a great deal of good. There have, however, been many cases where the nurse, being a good woman or man, but unused to the conditions of workmen's lives, was so anxious to do good that she did a great deal of harm by giving unsought advice. Once the follow-up man has made a satisfactory contact, and the nurse has shown her tact by

being helpful in a manner entirely professional, there is a good chance that overtures may be made by the man or his family for the advice which they would have resented if it had been offered unasked by an overzealous and officious welfare worker. The successful method seems to be almost wholly one of non-interference in private affairs, no matter what the temptation. It is true that many families of workingmen do not know much about living according to American standards. Also, as a part of their Americanization, it seems as though they should be brought in some way to give up their old-world customs and take up ours, and that the visitor from the shop could very well help in bringing this about. However, as will be explained in a later Section, under the head of Americanization, these suggestions come with better effect from others than representatives of the company. There is a perfectly natural suspicion in the minds of all employes that the company may be trying a little more than it should to make money out of them. Every attempt to secure greater production without at least a proportionate increase in money in the pay envelope is looked on as exploitation, and any apparent attempt to curry favor is looked on as a harbinger of new exploitation. For this reason, it appears to be wise to make the follow-up work from the employment department or the medical department very businesslike without the slightest hint of the expectation of any thanks for it.

EDUCATION

32. Importance of Ability to Understand.—One of the largest factors in increasing or decreasing the labor turnover is the degree of understanding that employes have of their work, of the reasons for the various steps in the manufacturing, of why so much system is necessary in a large shop, why it is impossible for an employer to pay in direct wages all the difference between the cost of material and the sale price, and, in fact, of everything that may be classed under the head of shop economics. This understanding can be obtained only by education, which must, first of all, be based

on public-school education. The knowledge of a profession may be obtained in schools that are practically public; in a very few places some of the most common trades may be learned at public expense; and some shops have arrangements whereby they teach the particular trades and professions of use in their business to a selected few, in some cases by means of their own schools and in others through cooperation with public or semipublic schools. For these reasons, the public-school problem becomes a very real matter to every shop. Most shop managers, however, find it easier to complain about the product of the schools than to make constructive suggestions; but few such managers appear to have made enough progress with their own methods to justify the belief that they would handle the problem much better than is now being done. However, the problem is there awaiting solution, and it behooves the shop manager to take a part in it if he wishes to help bring the nation out of its present state of being only partially educated. More than half the labor troubles which manufacturers experience can be traced to misunderstandings. These have sometimes been the result of apparently intentional misstatements of facts by men who make a living by leading workmen; but the fact that misstatements can be made and repeated and be believed is proof enough that the people who believe them have serious need of more education of some kind or other.

PUBLIC SCHOOLS

33. Suggested Improvements.—The results of a questionnaire sent to members of the National Association of Corporation Schools some few years ago showed conclusively that the members agreed in feeling that the public schools through the grammar grades should teach the so-called “three R’s” (reading, writing, and arithmetic), much more thoroughly than they do. When, as is now often the case, boys and girls go to school for 8 years and come out unable to read understandingly or so that others can understand them, cannot spell even moderately common words, and appear to have only a

hit-or-miss comprehension of the multiplication table, it seems as though the criticism made by the members was justified. The constructive part of this criticism was a pretty general suggestion that the other things on which time is spent during these 8 years, the "frills," be cut down or left out and that the effort be concentrated on the *three R's*. However, investigation does not show that these subjects were any better understood by pupils in the good old times when these shop managers were themselves in school.

The complaint in regard to the schools seems to be one of long standing. Moreover, it is one to which a great deal of attention has been paid by educators themselves. Their remedy is very simple, and one to which there appears to be a tendency to give some attention. It is simply to put teaching, as a profession, on a financial basis such that teachers with real ability will be attracted to it. Educators say that it is too much to expect that men and women of real teaching ability will accept salaries less than the cost of living, and continue to do so year after year, in the face of offers of double the wage from these very employers who are insistent on better teaching.

34. While the remedy offered by the educators is undoubtedly correct, the question still remains, "Just what will this better class of teachers do differently from those who now hold the positions?"

Two things appear to manufacturers to be important: First, a most thorough drill, so that it will be habitual for pupils to do their work correctly; second, the use of concrete problems that are commercially sensible, in place of the great number of abstract problems now offered. The first of these things could be done by the present teachers if time enough were allowed for them to do it. This time can be obtained only by change of the daily program so that more drill can be given on a smaller number of things. It is the second part of the program that gives the really serious trouble and that will continue to, no matter how capable the instructor.

The object in giving concrete problems is to arouse and

hold interest. Pupils, however, have varied interests. A girl may be content to compute how much it will cost her to make a waist with georgette at so much a yard and a fractional number of yards required, but the boys in the same class will not enthuse. On the other hand, boys will be glad to figure how many gallons of "gas" will be required to go from New York to San Francisco in a car of some make that travels on the average $12\frac{9}{16}$ miles per gallon. The girls may show some signs of interest in this problem, but not enough to work very hard at it, because they never expect to pay for the gasoline themselves.

However, it is possible to make the problems given to all the pupils commercially sensible. Some problems are, on the face of them, impractical. For example, no one today buys a house lot that is 6 rods, 2 yards, 1 foot and 2 inches wide, as one would suspect from the arithmetics. Nor does he buy very much coal by the long hundredweight today. In fact, it is seldom that the expression *hundredweight* appears at all in commercial reckoning. There is more likelihood that the ton of 40 cubic feet will be used, and that is seldom mentioned in school books.

It is possible that, so far as arithmetic is concerned, the solution of the difficulty may lie in the use of a textbook, different chapters of which relate to different callings, from which the pupils may make a reasonable selection, a boy perhaps taking the problems under the head of carpentry while his sister is struggling with the chapter on millinery or groceries. Such a plan of course puts a considerable strain on the teacher, who must be prepared to answer questions of a highly technical nature which are suggested to the pupil by his parents.

For example, a molder's son may very likely come into class any morning and want to know whether he is to figure the weight of a flask full of sand dry or wet-up, and a pattern-maker's little boy may want to know whether, when he is figuring the weight of a deep fin on a casting, he shall take its thickness at the bottom or at the top, or half way up. If the teacher can answer, his stock goes high in those households; if he cannot, it is simply the expected.

35. English.—In the public schools the subject of English means much grammar, which is universally disliked by the boys and only tolerated by the girls, and the reading of some literature, which through many years of use has become immune to criticism. When there is such a crying need for vocational guidance, it would seem as though some really good description of different trades and professions, written by some one who really knows, and presented in concise and easily-understood terms, would make a most excellent substitute for ancient authors whose principal claim for recognition in school is that none of the children are mature enough to understand them. It seems also as though just a few of the most elementary principles of elocution might well be taught. As it is now, pupils do not know, except by accident, how to sound their letters correctly nor how to enunciate in such a way as to make themselves clearly understood.

36. Letter writing is likewise badly neglected; not that a sufficient number of letter-writing problems are not given to the pupils, but because the letters are not carefully criticised from a business standpoint. There is undoubtedly a great deal of very bad letter writing, but there are textbooks that deal with letter writing in a modern way, which are at least within the comprehension of the teachers.

37. The study of formal grammar can hardly be criticised on any ground, except that it appears to have done little good in the last century. There is much question whether pupils in the grammar grades can be expected to understand the principles of English grammar. The subject is difficult for high-school pupils to comprehend, and there is ground for suspicion that a great many college students do not fully understand it. The greater number of people who use passably good grammar can cite no rule for it; they do it because they have acquired the habit from much reading, so that anything which is radically wrong is discovered by sight or sound.

38. The spelling of the students is usually bad, whether at the conclusion of the graded school, in high school, or in

college. Just when people do learn to spell is an open question. Sometimes it appears to be only when they see the words spread before them in typewriting or print, and then only from the habit of seeing the words spelled correctly in the daily papers. It is very likely that when the old-fashioned spelling bee was popular there was much better spelling than there is now, for now there is no very popular interest in correct spelling and nothing to arouse it. The only hope in this direction appears to be in the revival of the spelling contest as a game in the grammar schools and in the Americanization classes.

39. Writing.—Handwriting appears in danger of becoming a lost art, as the result of the constant use of the typewriter in business correspondence, and portable machines for ordinary letter writing. It should be noted, however, that the sale of fountain pens has risen in about the same ratio as that of typewriters. Unless all these pens are being bought for the purpose of attaching signatures only, there is still a chance that handwriting may be worth teaching. The schools appear to have mostly recovered from the craze for vertical writing that nearly ruined the handwriting of so many young people, with its childish look, and had neither the merit of being easy of execution nor of being legible. From a business point of view, any handwriting is good that is legible; differences in the proportions of letters and different slants can all be forgiven if there is no doubt as to what the letters are. Study of thousands of hand-written letters shows that the legibility of handwriting does not increase in proportion to the maturity of the man nor with his length of time in school. The maximum clearness appears in students who have gone through about six grades, from which time on it falls off and is at its worst in college graduates. This, however, should not be laid wholly at the door of education, for it also appears that the worst handwriting appears to be that of the quickest thinkers.

40. Relative Importance of Different Subjects. In the answers to the questionnaire previously mentioned, the

members of the National Association of Corporation Schools indicated that they regarded a knowledge of geography as next in importance to the three R's. It is true that national lines sometimes change rapidly, so that at times it has been difficult to keep up with them in the public schools; but physical geography undergoes little change, and a source of raw materials, even though closed to commerce for a time, does not cease to be a source; for lines of trade in the same way must again be opened. Where to go for raw materials and how to get them to the manufacturer are the matters of importance.

The general opinion of those answering the questionnaire appeared to be that the public schools should lay special stress on the instruction in reading, spelling, English, writing, arithmetic, and geography. The other subjects, such as history, freehand drawing, music, botany, etc., were regarded as less important. This, however, does not mean that any employer would condemn the study of those subjects; but the purpose of the inquiry was to discover what was essential from the business point of view. These other subjects are more for self-satisfaction. History is of value as furnishing a knowledge of what has happened from which each may make his own deduction as to what may happen again. Freehand drawing helps one to appreciate the better work done by professionals; botany, if taught for that purpose, teaches appreciation of nature, and so on.

41. Public Manual-Training Schools.—One of the answers to employers' criticism of the alleged inefficiency of the public schools is the manual-training school. It has not accomplished much, except in those places where it has fallen into the hands of men who had trade leanings. Where it has been controlled by professional educators, it has been made subservient to their general idea of education. The worst faults generally found in such schools are lack of thoroughness and lack of practicability. The first is due to the opinion held by many educators that once a pupil can do the thing that is being taught there is no further educational value in

it. That is, they propose not to allow practice to perfect the student in the application of the theory that is taught, but only to allow it as an illustration of that theory. While manual training uses trade names, and to some extent trade equipment, it is apt to abhor trade methods. Where the trade method is to make a bolt by upsetting a head on a bar and turning the body on a turret lathe, and to make a milled screw by turning it on a turret lathe from stock the size of the head, the manual training school is likely to center both and turn them on an engine lathe. At the best, equipment is provided sufficient to allow only a very few hours a week of manual training, and that is divided between woodworking, cabinetmaking, patternmaking, forge work, and machine work. The schools in a great many cities of considerable size have not progressed so far as machine work. From all this, it will appear that manual-training schools are not equipped or intended to be helpful to employers who wish to recruit trained mechanics. Indeed, it is difficult to see that boys are any better apprentices in shops or any better students of engineering, because of manual-training experience.

42. Public Trade Schools.—Another form of response to the demands of industry are the trade schools. Some of them are showing ability to turn out graduates for whom there is a place in industry. Some are merely manual-training schools with another name. There appears to be no way that an employment manager can tell for a certainty whether to give any value to a diploma from one of them without personal knowledge of the school. If a trade school has sufficient equipment so that the pupils get at least 20 hours each week of shop work on real product in whatever trade they are taking up, and if the work turned out is salable, then it is likely that the graduates will make something of themselves, with a little experience under completely commercial conditions. They cannot do this, however, unless the instructors are men of practical knowledge. Usually such men need to be taught to teach, as it is not natural for them to analyze and transmit their thoughts. Moreover, there must be a

good balance between the men who teach shop work and those who teach the academic subjects. The latter must be men with a broad tolerance of the shop, and who recognize that the teachers of shop work have a necessary place in the school; the shop men must have an equal tolerance of the academic teachers, which they are not likely to have unless the latter demonstrate that their knowledge is of use in the trade. For example, it is difficult to get a shop man to see the value of algebra, simply because it is almost impossible to find problems in the machine shop which require the use of algebra for their solution. For that reason many trade schools omit all mention of algebra, only giving some instruction in regard to substitution in formulas and a few of the things that really do come under the head of algebra, but do not deal directly with the solution of equations. It is not easy to get such a combination of instructors, so it is nothing surprising if the trade school does not measure up to its fullest possibilities; but, given the right faculty, and adequate equipment, the graduates should be the very best material for employment in whatever trade they may have studied in school. They have one very decided advantage over boys who have picked up a trade or served an apprenticeship, in that they have had enough academic work so that they can think their way through the jobs which come to them and do not have to depend entirely on remembering how they were told to do some rather rare job in the past.

43. Part-Time Schools.—A combination of academic work given in the public schools or colleges and actual shop practice in commercial shops is furnished in part-time schools. The usual plan is to have the students spend alternate weeks in school and in shop; sometimes the interval is two weeks. This plan is used for both trade-school and engineering-school work. Theoretically, it is as nearly perfect as any one could wish; practically, there are the same objections to it that occur in a full-time trade school if the faculty is chosen in the same way as are the instructors in the full-day trade school.

The part-time school places the boys in the shops under the foremen of different departments in succession. Very few foremen are teachers. Moreover, they have the duty of getting out work, of making a record in production. Teaching the boys who are assigned to them is a side issue, something that most of them do not care to do, but which they take on in a perfunctory way because they are told to do it. There is very seldom any means for teaching the foremen how to teach and they would probably resent having any one try it.

The teachers in the schools are likewise selected for their academic accomplishments, rather than for their knowledge of the trades for which their pupils are being trained. There is no great opportunity for them to get acquainted with the foremen in the shops, for the foremen, being shop men, are not available for conferences and meetings as they would be in a school. There is not the opportunity for an organized course of instruction in shop work that there is in a school, as the work is necessarily a part of the shop's production and must be made up when there is a sale for it. Moreover, a trade school can secure a very much larger range of work for its pupils than even a very large shop can offer.

When this part-time plan is applied to engineering work, the conditions are somewhat different. The pupils are more mature and have a better idea of what they are attending school for. They insist on getting instruction from the foremen with whom they are placed. In fact, it is part of their training to be able to secure information. In engineering work, the college professors have more time to follow up the work their pupils do in the shop and to show its relation to their studies. The professors are, however, at a disadvantage, in that it is impossible for all the students at the same time to have work that illustrates the lectures that are being delivered at the college. For example, suppose that a shop manufacturing textile machinery takes a dozen half-time students in mechanical engineering. One man may be assigned to the power plant, two to the erecting floor, three to the drafting room, and so on. In their progress, these students will work

in the different places at different times, so that the only time when the twelve will have the same amount of experience will be when the courses are completed. When the professor must deal with such conditions, about all that he can do is to strike an average, arrange a course of lectures, and stick to it, and make them as clear as possible without the practical illustrations that would be furnished in the shops of an engineering school having its own shops.

If the employment manager finds himself in a shop that is cooperating with some school, either as a part of trade training or as a part of a college plan, he can be of immense value by making the routing of students through the shops correspond as nearly as possible with something that the instructor in charge of academic work can follow in the class room and lecture hall. This, however, is not easy to do. For example, it is usually impractical to arrange for all the students to have their practice in the boiler and engine room at the time when the subject of thermodynamics is being studied.

44. Continuation Schools.—Because a great many boys leave school as soon as the local laws permit them to be accepted in a shop, several states provide by law for continuation schools for working men and boys. In these schools at various times through the week, classes are held to which boys who are working are sent to pick up their general education at the same time they are earning a living. Some of these classes are held early in the morning before boys who work in offices have to report, others are held at night after work, some on Saturday afternoon, and many others during working hours; for in some states the law requires the employers to allow the boys a certain number of hours weekly to attend these schools without deduction from their pay. Such work is not industrial education, but is strictly general education that these boys would be unable to get otherwise, owing to the fact that they are working.

Unfortunately, few of the boys who are affected by these laws have any personal interest in this educational work. Most of them left school to go to work, to be sure, but it was

because they thought that the shop was the lesser of two evils. When they are allowed to go to school during shop hours, they look on it as a lark and absorb very little information unless they fall into the hands of an instructor who makes the lessons very interesting, not to say entertaining.

In some instances this work has been much improved by giving the boys work drawn largely from the trades at which they are working. This makes concrete problems possible, which in itself is a great advantage, both in its educational effect and in its drawing power; for here, as much as in any other educational effort, the old saying about leading a horse to water but not being able to make him drink holds true. If classes are made voluntary, a few boys will attend so long as they can see, with their limited vision, that they are getting something; when attendance at the classes is made compulsory the lessons are either treated as a joke or are gone through in a sullen half-hearted way.

CORPORATION SCHOOLS

45. Varieties of Corporation Schools.—The term *corporation schools* includes the various kinds of educational work carried on by corporations and other business individuals and firms. It includes what are practically continuation schools conducted by the firm, apprenticeship systems, trade schools within the works, but entirely separate from the production department, schools for salesmen and minor executives, and any other educational activities into which the firm may care to go. The schools for salesmen and executives will be discussed under another head, but the more strictly trade training is treated here.

The first efforts of a firm that foresees a shortage of skilled men are usually directed toward an apprenticeship system, regardless of the fact that real apprenticeship has been practically dead for years. To make this new apprenticeship attractive, and also because there is a realization that some rather technical knowledge is desirable even in a workman, classes are formed for instruction in what may be classed as

mechanical intelligence. Usually an attempt is made to hold these classes in the evening outside of working hours. This does not work; as the apprentices feel that they should be paid for the time spent, and if that is granted they soon want time and a half for this overtime. Then the class-room work is put into the regular working day.

The next development is brought about by the reluctance with which foremen take boys into their rooms in the regular course of business, knowing that at the discretion of the supervisor of apprentices the boys will be taken out and moved elsewhere soon. As a result of this difficulty, it is discovered that no more machinery will be tied up by having all the apprentices in one place than if they were scattered over the shop. Then some one foreman is discovered who is interested in boys and who has the patience and the teaching knack to handle them, and then it is found that the shop has a complete trade school of its own. This last stage is the most successful and the most lasting of all.

When the boys are scattered over the shop, there is need of some pretty close supervision of the shop work by some one man. Without such supervision, it will soon be found that the teachable boys are persuaded to leave the class and stay with one of the first foremen they meet, while the laggards are passed from place to place quickly, learning but little, until they are finally pushed out the door without having had a real chance to learn anything. This defeats the real purpose of the apprenticeship school, which is to train a group of boys into all-around men who can aspire to good positions with the company.

When the apprentice school becomes a complete trade school, it encounters all the problems of the public trade school, with the two exceptions that it can make a more favorable selection of pupils and it does not have to pay any attention to local politics. Both of these are very much in its favor, so much so that it would seem that in moderate-size communities business men could get together and run a joint trade school, and train their boys on a wholesale basis to considerable advantage. However, from the point of view

of the public, it seems no more than right that any boy who aspires to become a patternmaker or a machinist should have the same opportunity as does his brother who aspires to become a lawyer or an engineer. On this plea, each community should in fairness offer trade training; but, even if it does, there is nothing to prevent any manufacturer from starting his own school unless he feels that he ought to stand by the town and give it his support. If the community does not see fit to offer such training, there is no doubt that shops will have to, as the supply of skilled men is very likely to be cut off both by embargoes in foreign countries and immigration laws here.

46. Organization of an Apprentice Trade School.

Equipment for an apprentice trade school is usually gathered from the shop. Foremen will, of course, try to get rid of the worst they have, as anything is supposed to be good enough for an apprentice, but the supervisor should see that he accepts nothing the design of which is much behind the average of the shop. Broken parts and worn parts need not affect him, as they offer the finest possible thing for boys to work on. He should look at every bit of equipment as something that is to be brought into perfect condition and kept there. His greatest trouble will be to get instructors. A good instructor is also usually a good foreman, though the reverse is not necessarily true. Because he is a good foreman, the production department wants to keep him, and they will generally do so until the management is sufficiently impressed with the necessity of supporting the school to insist on his transfer to it. A school that is simply a fad with some one in the management, and which he is allowed by the rest of the company to play with, is hardly likely to be very successful. It needs the full support and backing of the whole board of directors to make it a success.

Certain things should be conceded in advance of any training; one, that the first comers in the school, the apprentices, will not do so well in a given length of time as those who come later. This is not altogether because the school is new, but

because the example of the older boys is not there to encourage the younger. Another thing is that a great deal of time will be spent without apparent progress, just as in the spring the seed lies in the ground with no visible signs of life. Another thing is that boys will be boys. No school discipline is possible that is like that in a shop where there are 20 men to every boy. There will probably be no more mischief in the school than in the shop, but it will appear to be much worse because it will be in sight. Another point is that if real teaching is done there will be a larger percentage of spoiled work and slower production than if the boys are exploited and the greatest possible production made. One superintendent has aptly said that "A trade school is simply an inefficient shop," which would be very nearly true if he had not implied that that is all that constitutes a trade school.

The primary object of a trade school, whether public or in a shop, should be to teach boys to think straight, and especially to think straight about mechanical things. If a man can think in tenths of thousandths of an inch, he can make his hands work to that fraction; and, conversely, a man who can work so accurately is likely to think of other than mechanical things with the same accuracy. The greatest criticism made of our skilled mechanics and engineers is that they are so accustomed to working and speaking in terms of minute accuracy that it is almost impossible for them to tolerate the easy going rest of the world. However, a little accurate thinking is a good example for all the rest of the citizens of any community.

47. Work to Be Done in a Shop School.—The work that the apprentices are to do should nearly always be drawn from the work of the shop itself. If the school is for the training of machinists, as are more than half of all such schools, the work should be mostly on stock parts, such as may be made on a regular shop order, but which when completed will be put in the stock room to be drawn on from time to time as required. Very little work that must be completed at any given date should be undertaken by beginners. More-

over, there should be a large amount of work in process compared with the amount that is being completed. There is nothing that helps good instruction so much as to have a large number of jobs of different kinds from which to draw the next job for a boy. For example, a boy may be on his first job of threading on a lathe; if he takes hold of the job extremely well the instructor may next give him a job on which a small amount of other work has been done, though this will be lost if the boy spoils the thread. If, however, a boy on his first job of threading does not get on well, the instructor will probably find it safer to give him some bolts to thread that would naturally be cut on the bolt cutter. Similar conditions apply to work on a planer. A boy may have some parallel strips to plane; if he shows intelligence about getting them out of wind, the instructor will want to give him for the next job, possibly some flat plates with the edges to be squared. If, however, the boy does not do well with the strips, the instructor may want to give him as a job something that needs nothing but a roughing cut to be useful, but which may be smoothed up, if the boy shows ability to do it. Just so, through all the trades that can be handled in a trade school, a large number of jobs on hand enables each boy to progress so smoothly and readily that he will hardly know that he is being taught at all, but will think he does it all himself. These boys are not like college boys who are impressed with a professor who lectures away over their heads and impresses them with his superior knowledge.

In general, the work of the individual boy may begin on any machine that is in common use, even on a grinding machine. The idea that all boys should begin on an upright drill, and progress through lathe work to milling and then to planing, has been proved to be without foundation. Each of these machines has functions in common with all the others, and other functions that are entirely different. The assumption that planer work is the hardest to teach is not borne out by experience. Some adaptability is required to do planer work in a shop where there are no special holders for the work, but the same is true of face-plate work on the lathe, and

milling work that has no fixture designed for it. The chief difficulty in planer work lies in the fact that in a shop a job that can be done on a planer is commonly considered to be a planer job until it has been standardized and fixtures have been made for it; then, often, the work can be done by a less skilled man on a miller.

48. At the very beginning, it appears best for the instructor to set up the machines and start the boys on the work, so that all they really do is to start and stop the machine. If there is an automatic stop to the feed, it should be discarded just as soon as the boys have become familiar enough with it so that they are not afraid of the work and will not get disconcerted and do the opposite to what they intend.

If the boys are to learn to think, however, it will not do for the instructor to do their work for them beyond this time while they are learning the ways of the shop and getting over their fear of machinery. If the instructor carries them too long, they easily become conceited and think they have done the whole job themselves; but if they have really to do it themselves, they will acquire a respect for the skill of men who can do the things easily that give them serious difficulty. There should always be a few jobs on hand for the reduction of swelled heads. They should not be trick jobs, like the foundry job of molding a cup and saucer with a spoon in the cup, but real standard shop jobs that have been done in the course of regular manufacture. It may be that jigs are used with such jobs now, but if it is known that the jobs were once regular jobs without fixtures, they are fair tests.

49. It will soon be found by the instructor who analyzes his jobs that the real difficulty for his students lies almost always in the making of measurements. In this respect almost all trades, with the possible exception of the printers and paperhangers, are alike. If a boy can measure with certainty to a quarter-thousandth of an inch, he can usually work at least as close. Therefore time is well spent in discovering how well a boy can measure and in teaching him to

do it correctly, even if it requires the spending of considerable time in non-productive practice. When a boy once gets so that he can take a micrometer, bring the screw up to the anvil once, feel how hard he turns it to come to the zero line, and then can measure a piece of work with certainty that he exerts the same pressure, he can go on with the same certainty, unless something happens that seriously disturbs his confidence. For this reason, an ill-natured scolding is quite likely to do more harm than good. Self-confidence without overconceit is what is needed. Some foremen say that they only want men who have had all the conceit knocked out of them; but when they get that kind of men they are quite likely to find that all the production has been knocked out too. It is hard for a man who is in constant fear that his micrometer is not set right to get out any reasonable quantity of work; he is always fiddling over the instrument and constantly running it up to zero to get the feel over again, when he should be turning out work.

50. After there are boys in the school that have been there two or three years, and the younger boys see what they are accomplishing, it is easy to get the new boys to go ahead rapidly. In the early stages of the school, they only see the work done by journeymen, and they do not deem it possible that they will ever get to be able to do it, in which idea they are, more often than not, encouraged by these same journeymen; whereas boys do get to be very expert, especially in the absence of the older men who are constantly reminding them of the dangers of overwork. Experience with trade-school boys shows that there is more danger that they will have to slow down from their school pace to meet that of the shops than that they will have to speed up. This is true if the work is done on a day basis or on the basis of piece work with a limited production, which amounts to the same thing. Trade-school graduates, however, find it comparatively easy to rise to the emergency when they find a piece-work system where rates are not cut, or where there is a bonus system that puts a premium instead of a penalty on high production; because,

understanding fundamental principles, they find easy ways to accomplish difficult things.

51. Academic Work.—Many competent shop managers are struck with horror at the word academic, but it is just as well to call things by their true names. The boys in the trade school need to be able to read readily, to write legibly, and, without serious effort, to use arithmetic through square root, to know the fundamental principles of geometry, and to be able to handle enough trigonometry so that a table of the natural functions of angles is a useful tool. They can hardly find a use for algebra, unless learning to substitute known quantities in formulas and to solve the arithmetical problems thereby set up is considered to be algebra.

It is possible to have the boys read trade papers, write shop reports, and do shop arithmetic, and thus cover the academic and cultural side of the instruction; but these are exactly the same thing, except that in the shop trade school all the illustrations are drawn from the particular shop in which the boy is working instead of being drawn from a wide range of similar shops.

It is very difficult to secure suitable textbooks for shop schools, but it is also very expensive to write textbooks for every shop. Each instructor will have his own ideas of how all the subjects should be presented and each will probably wish to write his own books, from all of which sometime one may be evolved that will be satisfactory to many. At present, the trouble with the adoption of any one book is largely due to differences in nomenclature and in the different methods of doing jobs in different shops. In a way, these differences would have a broadening influence on the boys; but if it would tend to destroy their faith in the methods used by their own shop it is better that the books should not be used. There is a great difference in shop superintendence about these things. Some want only those men who are totally subservient to the ways of their shop; a man who even inquires if the superintendent knows how a certain job is done elsewhere is an object of suspicion, as if he wished to break up

the morale of the place. Others only want men who will fight for their own ideas, men who are always trying to find new ways and who will defend their ways strongly enough so the best way may be arrived at. Under the first-mentioned superintendent the boys must be taught to do things exactly according to the superintendent's method, and no breath of suggestion must be offered that any one else has any other way to do it. Under the other kind of superintendent, it is wise to furnish the boys with all the collateral reading possible and incite them to discussion and argument as to the best way to do various jobs. There is no question which of the two ways is most likely to give the shop the strongest organization years after the first superintendent has passed away; but the first way, in which one dominating man has his own way in everything, usually produces the most profit for the moment, and certainly keeps the overhead charges low.

52. In addition to the subjects that come under the head of academic, there are two, physics and shop intelligence, that are needed in almost every trade. Physics, for the machinist trade, should lay stress on mechanics; for some other trades, on chemistry, as in the manufacture of paints, dyes, etc.; on sound, for the manufacture of pianos and organs; on light, for the manufacture of lighting apparatus; on heat, for manufacturers of stokers, engines, pumps, and so on. Here again the usual textbook on physics is not exactly what is required, if for no other reason, because it is usually written with reference to the metric and centigrade system of units, while in almost every case the results of study of the book must be used in terms of English units. Moreover, the problems usually given are so abstract and so lacking in application to the practical problems met in the shop, that it seems almost necessary for each school to prepare its own books, though an exception may occur in the machinist business for which so much work has been done that some done in one shop may be applicable to others.

53. The greatest difficulty usually experienced in shop trade-school work is to get an adequate amount of time for

the academic work. If one-sixth of the week is given to it and half of that is available after the necessary drawing is taught, the instructor is fortunate; whereas, in the public trade schools the pressure is in the opposite direction, and the time for academic work is likely to be even more than half the total. However, in such instances the time spent on these subjects is by no means wasted, if the work is given a real shop flavor; for the boys who have a clear understanding of mathematics, and especially of physics, will surely, as shown by experience, outstrip the boys who have learned *how* to do things without also learning *why*.

This matter of the amount of instruction that is to be given in the academic subjects should certainly be considered and decided by the highest power that it is possible to reach in the organization, for its bearing on the future of the establishment is of the greatest importance. If the organization is of the one-man type, then it is probable that very little time will be allowed for "book learning," and the instructor will probably have to give that little while the boys are leaning over a drawing board or by cajoling them into studying at home. If the shop runs more to organization and democracy, then there is much more likelihood that the appeal for teaching the boys *why* will be successful.

If time cannot be obtained for teaching physics, it may possibly be obtained for the teaching of shop, or mechanical, intelligence. This can be launched by getting some of the old-timers in the management and among the foremen to give talks on some of the mechanical mistakes they have seen, which may range from the story about the man who laced a belt through the rounds of a ladder to the men who have invented very plausible perpetual-motion machines. Such talks will lead naturally to instruction in mechanical principles sufficient to prevent the making of similar errors, and this instruction may be extended to a full course in mechanics, from that to a well-proportioned course in elementary physics, and from that to mathematics, and so on.

TRAINING OF FOREMEN

54. Purpose and Methods.—The training of foremen may be of two main types, the first where young men who show evidences of executive ability are trained so as to fit them to handle the work in some department; the other, in which men who are already foremen are trained in the newer ways of handling help, and in their relations to the organization. This latter kind of training is perhaps more necessary with the change from a strictly line organization to staff and line or to a functionalized organization.

For the first-mentioned kind of training, the men selected to be trained are assigned successively to each of several departments, the work of which has a close relation to the department in which it is hoped that the man may become a foreman. In each of these he stays long enough to do all the important kinds of work well enough so that he can appreciate the difficulties and troubles that naturally arise, and also so that he can see just what he can rightfully expect from the departments that precede his in the manufacturing process, and what he should be able to deliver to those that follow. If the work involves mathematics, mechanics, etc., he should also be instructed in such of these things as are necessary to supplement his past education, or to refresh his memory. The latter is the more tactful way in which to present the subject to a foreman, and it is true that it is nearly as much of an effort to straighten out the men who have had a good education and not used it as it is to teach the subjects completely to others who have not had any part of a technical education.

55. The large problem with both classes of trainees is to teach them the new order of things in their relations to the firm and to the men under them. This new order has its largest apparent difference from the old in the matter of discharging or dropping of men. Under the old order, which prevailed at almost all times from the first years after the Civil War up to the opening of the World War, men who

wanted jobs were so plentiful that the foreman could discharge a few at any time, for the sake of the example on the rest of the men or for the sake of displaying his authority, with the full knowledge that he could have the choice from a large number of others to fill the vacancies which they left. At that time, no one had taken the cost of training new men seriously, and the losses from such random and arbitrary action were not apparent. Later it became well understood that unnecessary loss of men might cost up even into the hundreds of dollars each, and that it surely, in the case of semiskilled men, ran up to at least \$50 each. Such losses, multiplied by the number of men lost, made tremendous amounts, which became even more startling as labor turnover from voluntary leavings alone ran up to several hundred per cent. during the World War.

The purpose for which the training classes for foremen are largely maintained is to help each foreman to find a way to maintain discipline and secure production without resorting to the discharge or firing method. This requires a full, frank, and free discussion of all the things that have been discussed in this and preceding Sections in relation to the reasons why men leave the shop. The foremen should have each week's report of men leaving classified by departments and also classified by the reason why each man left. They should compute, as nearly as they can agree, what it will cost to replace the men that have left each department in a given week, and consider just what steps might have been taken to avoid the loss, what is the best method of replacing these men, and so forth. Of course, if the work is done by skilled workmen, and there is a plentiful supply, so that better men can be obtained than those who have left, the cost of making the change becomes negative, and the foreman who is farsighted enough to fill up his department with men who will make a good nucleus around which to build a large organization when business becomes better should be commended.

56. The first thing that a foreman has to do after he has accepted a man sent him by the employment department is

to find out just what the man can do, both as to quantity and quality. That is, a foreman who puts a man on an easy job and forgets him and leaves him there when he might be doing some very much better work, is throwing away money for the company. Some men will not allow themselves to be hid away like this, but will insist on getting as good work as they can do, or sometimes better than they can do successfully. The foreman's instruction should bear on this point, so as to make plain that the firm cannot afford to have any work done by a man who can do better work, unless in an emergency.

57. Another thing that may well be presented to a class of foremen is the quality of patience with learners. When a man is hired with the understanding that he is a learner, full opportunity should be given to him to learn. If he is quick, the foreman should watch him closely to see that he is thorough, but if he is slow he should be brought along without being too much hurried. There are many cases of men who have been slow to learn but who have later on developed to fill positions of considerable importance. They have usually done it by being buffeted from shop to shop, but in each shop they have picked up a little, and by putting these many littles together they have ultimately outstripped the brighter men. It is the old story of the hare and the tortoise, and it is repeated day after day. If the management of any shop that has been in existence for 20 or 30 years look back over their records and list the men who have worked for them and whom they wish were still with them, they will almost certainly discover that they have lost enough men who have since made good to have given them an organization that would be far better than the one they have. If such a record can be spread before the foremen it will be an object lesson that will do more good than all the lectures that the general manager can deliver to them.

58. The characteristics of the men of different races who work in the plant should also be discussed. We cannot expect to be able to change quickly characteristics that have

been centuries in the forming. Some of these characteristics are extremely difficult to understand. Often it seems as though the men who have them could never become American citizens in the real sense; and yet we know that unless we assimilate these people they will assimilate us. Each foreman should be fully impressed with the importance of his work with foreigners as affecting the future of the country, and he should be made to understand that, even though he cannot do a great deal, if every foreman does not do the little that he is called on to do there may be serious results for all of us.

As will be explained in another Section, under the head of Americanization, there is much that should be done by some organization other than the shop, but since the workmen spend so much of their wakeful time in the shops, there is a greater opportunity there for helping them to take up our ways than can be had by an outside organization that can only see them an hour or two a week.

59. Besides being in charge of the time of the workmen, foremen are also the custodians of very valuable company property. Formerly, it was possible to recruit a force of workmen who respected property rights much more than they do today, and who realized their responsibility as to materials, tools, and machines much more fully than they do now. The war with its tremendous waste only served to make this condition worse than it was. The soldiers who knew about the "million-dollar barrage" in which shells to that value were hurled on a small part of the enemy's line in a few hours, and who saw large quantities of valuable material destroyed without apparent reason, can hardly see any value in a machine that costs only a few thousands. It is part of the foreman's job to make the workmen see values in terms of their own incomes, rather than in terms of million-dollar wastes. Moreover, in impressing this on the workmen the foremen will learn to apply the same idea to their own work, for many of them have acquired a disregard of small things, in common with the rest of the American people.

60. One of the most important jobs of being a foreman is that of a teacher or instructor. In a few favored shops, the management will install a school for the training of certain apprentices in skilled work; sometimes there may be a vestibule school, or trade school teaching certain workmen each a single operation. In spite of all these efforts, the very great majority of all workmen still go direct from the employment office to the foreman, and they succeed or fail according as the foreman has a natural gift for teaching or not.

In a great many instances foremen have discharged men for not knowing how to do a job, when the fault was the foreman's because he had not told the man how in an intelligent manner. Foreigners will almost always say "Yes, yes" to any instructions; not meaning that they understand, but as showing approval of the foreman and a desire to please him. Then they watch some one else and do what the other person does as nearly as they see it. It is not enough to tell a man how. He must be watched until it is seen that he has grasped the idea. He may have the very best of intentions, he may think he understands, but, like the foreigner in the picker room, he may put his hand in the way of knives revolving so fast that he can only see them as a haze.

The first principle of all teaching is to analyze into its elements the thing to be taught; and it is just there that the first attempts at teaching often fail. Very few practical men analyze their own jobs. They have done the work so long that it is second nature for them to do it correctly. They do not realize half what they are doing while they are doing it. They are like jumpers or golf players, who cannot tell what motions they make until they see them revealed by a slowly shown moving picture, and then they can hardly believe what they see. Therefore, there is need of analysis of the job down to its minutest elements. This analysis often shows the man who is accustomed to doing the work how to do it in a better way, and that is a valuable thing for him to discover.

Then, there is the necessity of stating simply and correctly what is to be done. The instructor who fails for words and tells a workman to "take that d—d thing and move it up

about a foot and then tighten up those do-dads on the back," may have a very definite idea of what he wants done, but he does not convey it. Fun is sometimes made of the precise method of speech of the school teacher, but we have to admit that it is the result of necessity; for if she were to teach in the slack terms that are used every day in the shops, her pupils would be subject to more criticism than they are now. This exactness of instruction can readily be obtained as soon as the instructor knows definitely, by analysis of the job, just what he is trying to teach.

The next thing in order is the showing by example or sketches or whatever method is desirable and appropriate. This is very necessary, especially to those of low mentality. Well-educated people, and some especially gifted men without much education, visualize things well from oral descriptions, but the great number do not. The easiest way to visualize anything is to see it, and fortunately this is possible in most manufacturing processes. Seeing is not enough, however, unless it is supplemented by the reason why; and giving of reasons is another of the things that are not well done by the average foreman. One cause may be that he does not know the reason. Another may be that he does not feel that it is necessary for him to tell it. He may feel that he is an authority and that no one needs to know why, but that each should do as he is told. All of which is true in a sense, but the idea does not result in good teaching.

MEMORY HELPS

He who can answer the following questions from memory has a good understanding of the text in the preceding pages.

- (1) Under what conditions is a combination of employers for hiring help likely to be successful?
- (2) What is considered the best system of control of employes' mutual benefit associations?
- (3) Why is it advisable that the dues and benefits of mutual benefit associations be comparatively small?
- (4) Under what circumstances is it advisable for a mutual benefit association to promote social activities?
- (5) Is a seniority system of promotion of value in securing low labor turnover?
- (6) In jobs requiring sustained mental effort, what means are advisable to avoid overfatigue?
- (7) For work that must be carried on continuously, what arrangement of shifts is usually most satisfactory for the workmen?
- (8) Under what circumstances may a public trade school do valuable work for its students?
- (9) What form of training is advisable for young men who have shown evidences of executive ability and whom it is desired to prepare for positions as foremen?

